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Family Socialization Of Sexuality: Parents' Awareness Of Physical Sexuality Development During Early Childhood And Adolescence

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Family Socialization Of Sexuality: Parents' Awareness Of Physical Sexuality Development During Early Childhood And Adolescence

by

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Dedication

To my sisters, Paula and Veronica; my mother, Ana; my father, Diego; my grandparents, Lucellan, Gloria and Francisco; my stepdad, Patrick; my cousin, Cesar; my aunts, Martha, Angelica and Patty; and my uncles, Pepe, Carlos, and Anthony. Each of you helped me grow into the person I am today. It remains my privilege to be surrounded by all of you as my family and enveloped by love, laughter and hope. You all dissipated my doubts with encouragement and support and celebrated my achievements small and large. To you each, and to Dylan: Thank you.

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Family Socialization Of Sexuality: Parents' Awareness Of Physical Sexuality Development During Early Childhood And Adolescence

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Despite other assumptions, sexuality is a multifaceted concept important to many aspects of one's being that develops as early as infancy. Socially, however, sexuality is not an acknowledge part of early childhood, rather something that emerges as part of puberty, during adolescence. Parents' ability to recognize physical sexuality development milestones and interpret their meaning and place within development is crucial to promoting positive, healthy sexuality development. In this dissertation, I propose a theoretical framework for children's sexuality development, and family socialization of sexuality, from birth to adulthood. Empirically, I examine parents' observations and responses to physical milestones related to sexuality development during early childhood and during adolescence. Two studies juxtapose the periods of early childhood, ages 1-4 years old, and adolescence, ages 12 – 15, to examine parents' observations, and aspects of parent-child communication at two distinct periods. In the first study, I interviewed 20 parents of young children, and found four themes that summarized parents' awareness of sexuality development: 1) Parents rely on their own experiences to form interpretations of their child's behaviors, 2) Parents observed, but are uncertain about sexuality

development in early childhood, 3) Communication between parents about sexuality is limited or implied, and 4) Sexuality does not yet apply to their child. In the second study, I quantitatively examine whether mothers' observations of children's pubertal development and puberty knowledge are associated with their inclination for and initiation of puberty-related communication. Analyses of 133 mother-reports, showed mixed significant and non-significant findings. Together, these studies showcase parents' observations of sexuality and physical development, the need for parents and researchers to reconsider the age of occurrence for sexuality and pubertal milestones, and provide empirical support to the proposed theoretical framework for children's sexuality development within the family.

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Chapter 1

Adolescence is the developmental period most generally affiliated with sexuality; nevertheless, sexuality development begins during early childhood. Research on childhood sexuality development, however, has suffered from assumptions that sexuality refers to sexual behaviors, and with these assumptions, that the sexuality-relevant behaviors are part of development during adolescence ((Goldfarb & Lieberman, 2016)). Sexuality, however, is not synonymous with sexual behaviors, but is a broader concept that encapsulates all thoughts, feelings, physical behaviors, and interactions one has relevant and related to our natural and lifelong state as sexual beings. In fact, sexuality development milestones generally expected during adolescence, such as masturbation, occur during early childhood (Chrisman & Couchenour, 2002). However, other sexuality milestones do occur during adolescence; for example, dating is a typical milestone of sexuality development during adolescence. Yet, dating and relationships rely on each partners' sense of trust and attachment – two things learned from parent-child relationships during infancy and toddlerhood (Erikson, 1963; Rosenthal, Gurney, & Moore, 1981 1981). Despite the vast attention paid to sexuality during adolescence, gaps remain for the study of sexuality development — in particular, 1) how sexuality development applies to early childhood and 2) how parents observe and react to children's pubertal development (physical growth related to sexuality development). This dissertation aims to address these gaps through two studies: Study 1, Parenting and Children's Sexuality Development in Early Childhood, and Study 2, Mothers' Recognition of Adolescents' Pubertal Development and Mother-Child Communication.

The first study, Parenting and Children's Sexuality Development in Early Childhood, qualitatively explores contemporary parents' awareness and knowledge of childhood sexuality. That is, what do parents define as or understand contributes to one's sexuality; and, do parents recognize sexuality is a component of children's development? Moreover, how knowledgeable are parents about sexuality development milestones during childhood? The study sample includes 20 parents (8 parent-couples and 4 individual parents) with an oldest, biological child between 12 and 47 months. This oldest child served as the 'target child,' the focus of interview questions. Participants completed one interview, individually, and one activity-and-interview, as a couple, or if their spouse was not able to attend, individually.

Although what children learn about sexuality during early childhood is fundamental to later sexuality health, parents with young children may be less likely give attention to sexuality development than parents with adolescent children. Thus, the second study turns the focus to the developmental period, adolescence.

The second study, Mothers' Recognition of Adolescents' Pubertal Development and Mother-Child Communication, quantitatively captures mothers' observations of pubertal growth and predictors of mother-child communication. Analyses tested two predictors: 1) mother-rated child's pubertal development, 2) mother-rated child's knowledge of puberty. The sample included 144 mothers, in this case of Mexican and Mexican American origin, with an adolescent child between 12 and 15 years old, located in the Central Texas area. In this dissertation, I take advantage of specific items relevant to my current work included in a larger culturally aimed study (Mexican American

Mother's Perspectives on Puberty). Study 2 is focused on mothers' experiences, and not experiences specific to a distinct culture.

Although studies 1 and 2 do not share a sample or methodology, they do share broader common aims: to better understand how parents view children's social behaviors and physical growth related to sexuality development, and how parents approach sexuality development and socialization within the family. The messages and ways parents share their own beliefs and values regarding sexuality to children (sexuality socialization) will inform children's social sexuality development.

This opening chapter presents background and context pertinent to both studies, a problem statement, statement of purpose, and research questions. The chapter concludes with definitions for key terminology used in proceeding chapters. Additionally, given the mixed use of methodologies between studies 1 and 2, a brief discussion of the researcher's (and research team's) perspective and assumptions is provided in Appendix A.

BACKGROUND AND CONTEXT

Sexuality Development Across Development Domains

Children's development is measured through the skills they acquire and milestones they meet across four domains: physical, social, emotional, and cognitive (see Figure 1) (Berk, 2013). The physical domain houses physical growth, such as height; locomotion milestones, such as walking; whole body movements, such as dancing (i.e. gross motor skills); and more precise movement skills, such as writing (i.e. fine motor skills). Early physical development occurs quickly, is observable, and is responsible for early sensorimotor learning. Social and emotional domains are often joined into one socioemotional domain as children use social cues from parents and caregivers to guide

sensations into emotions. For example, if a parent smiles at a child, the child would return a smile. But, if a parent's facial expression displays disgust, a child could interpret that to mean he or she should also feel disgust, possibly even distress. The cognitive domain holds growth and milestones related to thinking, such as the ability to hold thoughts and ideas within one's mind, communicate, use language, and make decisions (Berk, 2013). For children, development in all domains often occurs within the context of family, as parents, siblings, and other relatives typically contribute to the child's growth.

Although family and family formation can be defined in many ways, this work defines these in respect to a child. A family is formed when two individuals in a romantic relationship (regardless of marriage or partnership) transition into parenthood (Kunz, 2012). At this point, the couple's spouse-spouse (spousal) relationship where exchanges are related to each other also becomes a parent-parent relationship where exchanges are related to their child. Moreover, each parent also gains a new, parent-child relationship (where exchanges are between the individual parent and the child). The family, newly structured through various parent-parent-child relationships, is a system that must function for everyone's wellbeing; particularly for the child's growth and wellbeing (Kunz, 2012).

Sexuality development occurs within the previously noted domains and in the context of family. Each domain holds milestones that are relevant and related to sexuality development. Figure 1 illustrates how a child's sexuality development is encompassed within all four domains, and how each domain contributes to sexuality development. For example, as infants and toddlers explore their physical bodies and sensations, they learn what objects feel pleasant to touch, and what movements bring joy (Piaget, 1964). The

behaviors that guide growth in the physical developmental domain are the same behaviors and reasons infants and toddlers often explore their genitals, experience genital pleasure (pleasure is physiologically predicated), and masturbate.

As cognitive capacities increase with age, autonomy and agency, so may intentional genital exploration for feeling pleasure. When cognitive capacity increases and awareness of arousal and eroticism contributes to the physical capacity for pleasure, masturbation becomes sexually driven. The behavior itself, whether soothing or sexually driven, is still called masturbation. This is merely one example of how developmental domains contribute individually and coordinately to sexuality development.

However, the child remains at the center of the family, shown in Figure 1, by the parents, extended family and siblings. For the current work, family will be limited to parents, as parents are primarily responsible for the child's upbringing. Parents rely on their own recollections for sexuality development knowledge remembering their own development during adolescence (not their infancy), Bearing in mind their experiences and memories parents expect their adolescent to masturbate, but do not expect this behavior with their infant or toddler. By juxtaposing the two developmental periods, this dissertation aims to show how parents' expectations of sexuality development frames how parents view behaviors, recognize developmental milestones, and understand their children's sexuality development.

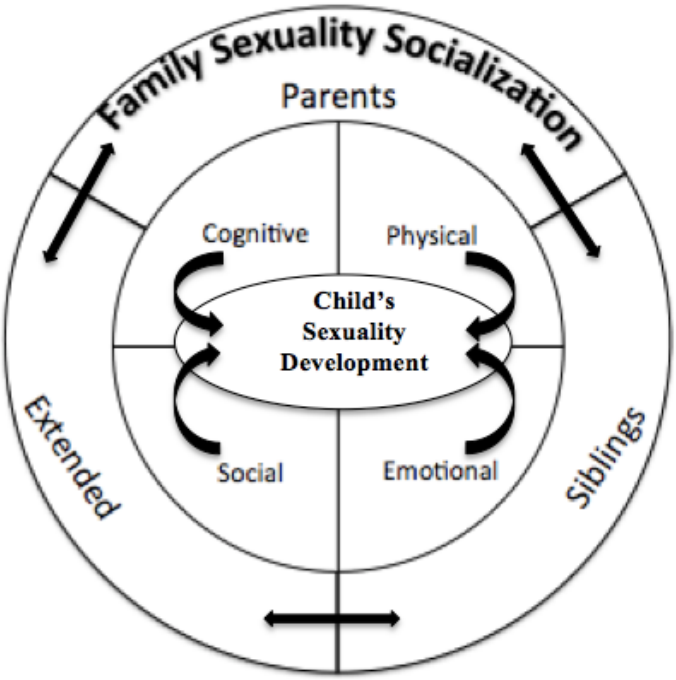

Figure 1: Sexuality Development Across Domains

Figure 1 illustrates sexuality development across developmental domains. Four developmental domains are shown: cognitive, physical, social and emotional. At the center, receiving contributions from each domain is child's sexuality development. The outer ring includes family, specifically parents, extended family and siblings. Arrows between the family agents indicate bidirectional ways agents may engage within each other about sexuality development. Although not displayed by arrows, family agents in the outermost ring would also contribute to each inner ring and domain. This figure is initially discussed in chapter 1 and again in chapter 3.

Providing Sexuality Education Without Attention to Sexuality Development

Research on sexuality development has been disadvantaged by the behaviors associated with the root word, sex. Research on sexuality education abounds because the root word is sex. Reasons for this imbalance, and the lack of research on sexuality development in early childhood include societal sensitivity, faulty presumptions (e.g., children as asexual beings) and general lack of awareness about children's sexuality (Bobier & Martin, 2016; Ponzetti Jr, 2016a). The physical changes indicating puberty are

observable and indisputable: Female girls gain breast tissue and curvature, and male boys gain facial hair and deeper voices.

Although sexuality education is not a focus of the current work, a review of sexuality education is necessary to understand how much attention is and is not paid to sexuality development within education. Research on sexuality education has examined best-practices for sex education (Ponzetti Jr, 2016b), the philosophical underpinnings of sex education (Kendall, 2013), the importance of timing for sex education, the differences between formal (i.e., school-based) and informal (i.e., home-based) sex education (Cushman, Kantor, Schroeder, Eicher, & Gambone, 2014 Eicher, & Gambone, 2014; Ponzetti Jr, 2016b), and the measurable outcomes associated with various sexual behaviors such as pregnancy and sexually transmitted infections (Chin et al., 2012; Deptula, Schoeny, & Henry, 2010 2012; Koh, 2014; Pazol et al., 2011; Stanger-Hall & Hall, 2011). Research has focused on parents as educational figures, and supported the importance, impact, and positive effects of home/parent-based sex education (Santa Maria, Markham, Bluethmann, & Mullen, 2015 & Mullen, 2015). Research has not thoroughly addressed how each of these concerns is pertinent and applicable to young children. Further, the research does not address the pertinence of these concerns with regards to parents of young children who are only beginning to formulate their parenting (i.e., guidance and educational) strategies for the future.

Age appropriateness is equally important to sex educational information, regardless of topic. A recently published meta-analysis examining research on parent-based sex education programs and interventions found 28 interventions examining the effect of sex education with parents (and, in some studies, youths) on various sexual

behaviors and communication (Santa Maria et al., 2015). However, of the 28 intervention programs summarized, no programs considered young children, and only two programs considered children under the age of 10 (Santa Maria et al., 2015). Additionally, only three of the 28 programs included the topic of puberty (e.g., increasing knowledge about puberty) among their program aims, and, of these three programs, only one sought to increase parent-child sex communication before the onset of puberty (Santa Maria et al., 2015).

Parents and researchers have given sexuality greater attention during adolescence. Adolescents are expected to navigate between sexual-cognitions (i.e., attraction and interest) and feeling more physically sexual, while parents are expected to become the child's sexuality educators. Santa Maria and colleagues' (2015) meta-analysis summarized that the goals of parent-based sex education programs were largely directed at parent-child communication, delayed sexual debut, and health-promoting behaviors (e.g., condom use). Three programs present goals concerned with puberty or increased knowledge of puberty (Santa Maria et al., 2015). Parents' lack of knowledge or inability to recognize signs of pubertal development (a proximal measure of awareness of pubertal onset) may undermine efforts to improve parent-based sex education. Similarly, mothers' perceptions of their child's sources of education beyond the family and mothers' perceptions of their child's knowledge about puberty may also influence mother-child communication, a recurring goal of parent-based sex education programs.

The current work does not dispute the importance of parent-based sex education or the importance and vulnerability of the adolescent and pre-adolescent period. Instead, I frame this work around the observation: If children's development is widely accepted as

epigenetic (i.e., a child's skills progress sequentially from simple to advanced), why does this not apply to sexuality, where development does not receive attention prior to the onset of puberty. While some researchers and parents do view sexuality development important at all ages, it seems the lack of research on children under 10 years of age at-large may be considered a representation of the state of sexuality education within the U.S. (Ponzetti Jr, 2016a). The conceptual framework presented in chapter 2 elaborates upon the observation; studies 1 and 2 contribute empirical information to this sexuality development framework. Findings from each study provide insight as to the attention parents do or do not pay to sexuality development far earlier than adolescence.

Parents And Parenting Couples

If parents assume childhood is an asexual period of life and regard sexuality as a characteristic only of adulthood, then they would see no need to devote resources to fostering positive sexuality development. If there were no resources or attention given to sexuality development early, then parents would wait until puberty to begin teaching children about their body, privacy, consent, etc. When parents wait, however, they miss simple opportunities to foster comfort and communication between them and their child. Not taking the opportunity to teach a child about sexuality early and incrementally, may not seem like dire losses, but could mean missing the opportunity to prevent teenage pregnancy; missing the opportunity to explain the importance of consent or, missing the opportunity to protect a child from inappropriate situations.

Parents may forget their own sexuality experiences in childhood and be only aware of what sexuality means in adulthood, and thereby feel uncertain about their child's sexuality experiences. The developmental distance between adult-parents and

infant-children may inadvertently contribute to the idea that sexuality is 'taboo' by both parents and children; neither is clearly aware of the other's perspective. The consideration of sexuality as a taboo, combined with limited awareness of childhood sexuality, may also lead parents to misunderstand children's sexual behaviors, which often are without ill-cause or intent such as when behaviors result from natural curiosity towards one's body and not symptoms of abuse.

Contrary to the implication of this misconception, this dissertation poses that the term 'childhood sexuality' is not an oxymoron. The present study sought clarity for how sexuality development may have long-term, intergenerational benefits to health and wellbeing. Families may benefit from early, comfortable, and open communication about sexuality and puberty that improves sexual/health communication, attitudes, and behaviors during later years. In other words, just as sexuality development starts early and continues, so should parents provide children sexuality development information.

While study 1 explores parents' (mother-father dyads) experiences of their child's sexuality in early childhood, study 2 explores parents' experience of their child's pubertal development in adolescence. Existing literature has not thoroughly examined how parents experience, view, and cope with their child's pubertal development. Filling in this gap in research may be crucial for expanding sexuality development awareness earlier within the family. For example, parents who lack knowledge of the physical changes which precede menarche or breast growth may not be aware that their daughter is approaching puberty, and may be less likely to prepare her for the coming changes. Previous research has centered on the child's experience of puberty, physical growth, and the transition to becoming a sexual agent (Baams, Overbeek, Dubas, & van Aken, 2014; Cavazos-Rehg et

al., 2009; Erkut et al., 2012; Fortenberry, 2013; Ragsdale et al., 2014; Sørensen et al., 2012). Existing research inclusive of parents has examined aspects of the parent-child relationship, parental influence on adolescents' behaviors, and constructs such as parental attitudes, beliefs, and monitoring (Bush & Peterson, 2013; M. de Looze, N. A. Constantine, P. Jerman, E. Vermeulen-Smit, & T. ter Bogt, 2015; Deptula et al., 2010; Kincaid, Jones, Sterrett, & McKee, 2012; Parkes, Henderson, Wight, & Nixon, 2011; Ragsdale et al., 2014). Overall, these works support that parents exert efforts to influence adolescents' sex behaviors, either encouraging the adolescent to abstain, delay, or practice health-promoting behaviors (e.g. use condoms and contraception).

Childhood Sexuality

As previously discussed, it is important to distinguish between the terms sex and sexuality development. It is likewise paramount to distinguish between child and adult sexuality because the two sexualities are very different and should not be treated as equal. Adult sexuality is based on adults' awareness and knowledge of eroticism, the capacity to take deliberate actions, hold accountability for those actions, and have a sense of privacy or intimacy (Chrisman & Couchenour, 2002). Children's sexuality is characterized by a sense of curiosity and playfulness; children seek and process knowledge through play, often acting out behaviors modeled by their adult caregivers. Young children, in particular, are not yet cognitively capable of planning and base many 'sexual' behaviors on the scripts developed from witnessing adult interactions (Chrisman & Couchenour, 2002; Rothbaum, Grauer, & Rubin, 1997). Most importantly, young children are not aware of eroticism (the hallmark of adult sexuality) because eroticism is a socialized behavior that requires a level of cognitive and socioemotional skills attained in late

childhood and early adolescence (Chrisman & Couchenour, 2002; Rothbaum et al., 1997; Sciaraffa & Randolph, 2011).

PROBLEM STATEMENT

Existing research has paid sparse attention to childhood sexuality development, and no work has examined parents' understanding of sexuality development milestones (Bobier & Martin, 2016; Ponzetti Jr, 2016a). Furthermore, no empirical work has specifically examined if what mother's observations of their child's pubertal development (e.g. mothers' ratings of a child's pubertal growth and puberty-knowledge) associated with mother-child communication about puberty. Existing research in the field of sexuality development, as well as puberty, is narrowly focused on the adolescent period. However, developmental theories and development-oriented parenting practices (e.g., developmentally appropriate teaching, and positive guidance practices) suggest that earlier attention may be more beneficial for children. Furthermore, attention to sexuality development provided by parents and within the family (i.e., sexuality socialization) may benefit and strengthen parent-child trust and communication, parent-parent cohesion and communication, and improve intergenerational sexuality socialization efforts.

STATEMENT OF PURPOSE

The purpose of this dissertation is to explore parents' awareness of their child's social and physical sexuality development during early childhood (Study 1) and the recognition of physical markers of pubertal development during adolescence, as antecedents to parent-child sexuality-socialization and puberty-communication (Study 2).

Research Questions

Study 1 explored the following research questions through semi-structured interviews:

1. How do modern-day parents define sexuality and relate sexuality to early childhood, particularly their child's development?
2. What attitudes, assumptions, or beliefs underlie what and how parents conceptualize sexuality in childhood?
3. Do parents recognize milestones of sexuality development? How well and how accurately are they able to match milestones with the appropriate age?
4. How informed or prepared are parents regarding their child's past, present, and future sexuality development?

Qualitative conclusions drawn from study 1 may inform future research or programs that encourage parents to consider sexuality development a component of physical development.

Study 2 examined the following research questions:

1. Is a child's pubertal development stage (as rated by mothers) associated with mother-child communication about puberty (specifically, inclination and initiation)?
2. Is a child's knowledge of puberty (as rated by mothers) associated with mother-child communication about puberty (specifically, inclination and initiation)?

Results from studies 1 and 2, assessed individually as well as jointly, will contribute empirical findings to further encourage a positive, developmental view of sexuality.

DEFINITIONS OF KEY TERMINOLOGY

This section will provide definitions for key terms used within this research work. Definitions presented here are drawn from academic and empirical sources (specific citations indicated within each definition).

- Adolescence (a.k.a. adolescent period): The period following the onset of puberty during which a young person develops from a child into an adult; the condition or state of being adolescent (Cushman et al., 2014). Steinberg (2014a) has also presented a conventional definition of adolescence as "the stage of development that begins with puberty and ends with the economic and social independence of the young person from his or her parents" (Steinberg, 2014b).
- Autonomy: The condition or right of a state, institution, group, person, etc., to make its own laws or rules and administer its own affairs; self-government, independence (Cushman et al., 2014).
- Early childhood: A major period of human development typically includes ages 2-6. This is a period of rapid growth, characterized as the "play years." During this period children's growth includes: refinement of motor skills, improved thought and language capacity, emergence of morality, and the start of peer relationships (Berk, 2007).
- Eroticism: A condition or state of sexual excitement or desire; a tendency to become sexually aroused, usually by some specified stimulus (Cushman et al., 2014).
- Parent: A person who is one of the progenitors of a child; a father or mother (""Parent" (n.d.)," 2016).

- Parenting: The process of taking care of children until they are old enough to take care of themselves; the things that parents do to raise a child (""Parenting" (n.d.)," 2016).
- Puberty: The period of life during which a young person reaches sexual maturity and becomes capable of reproduction; the sequence of structural and functional changes that occur in the body during this period, including the appearance of secondary sexual characteristics (such as pubic, axillary, and (in the male) facial hair) and the onset of the secretion of sex hormones and the production of ova or sperm (Cushman et al., 2014).
- Schema: An automatic, unconscious coding or organization of incoming physiological or psychological stimuli, giving rise to a particular response or effect (Cushman et al., 2014).
- Script: The social role or behavior appropriate to particular situations, esp. of a sexual nature, that an individual absorbs through his culture and association with others (Cushman et al., 2014).
- Sexuality: According to the World Health Organization, WHO, sexuality is defined as, “a central aspect of being human throughout life encompasses sex, gender identities and roles, sexual orientation, eroticism, pleasure, intimacy and reproduction. Sexuality is experienced and expressed in thoughts, fantasies, desires, beliefs, attitudes, values, behaviors, practices, roles and relationships. While sexuality can include all of these dimensions, not all of them are always experienced or expressed. Sexuality is influenced by the interaction of biological, psychological,

social, economic, political, cultural, legal, historical, religious and spiritual factors." (Organization, 2010).

- [Adult] Sexuality: In addition to the WHO definition of sexuality, sexuality in adulthood stipulates that adult-aged persons are aware and knowledgeable of sex, capable of deliberate action, responsible for consequences of sex/sexual behaviors, and capable of erotic thoughts and feelings (i.e. eroticism) (Chrisman & Couchenour, 2002).
- [Child] Sexuality: In addition to the WHO definition of sexuality, sexuality in childhood is distinguished by developmental aspects of childhood itself, particularly children's developing cognitive and emotional skills. In children, sexuality is characterized as curious and playful, driven by an innate desire for knowledge attainment (i.e. children do not have pre-existing knowledge for sex), spontaneous, self-exploratory, and unaware of consequences of behaviors and eroticism. The transition between childhood and adulthood sexuality may be marked by age, but also by the achievement of milestones associated with adult sexuality, particularly cognitive capacities and awareness of sex behaviors, expectations, and consequences (Chrisman & Couchenour, 2002).

Chapter 2: Theoretical Framework

This chapter presents the theoretical and conceptual frameworks for this dissertation as a whole. Studies 1 and 2 were designed to contribute empirical information to this framework.

OVERVIEW

When studying child development, family processes, and sexuality development – from early self-exploration to later autonomous behaviors – no single theory can alone encompass the complexity, or depth, of the influences and interactions that contribute to one's sexuality. In total, five theories informed this dissertation: Maslow's Hierarchy of Needs (Maslow, 1943), Social Learning Theory (Bandura & McClelland, 1977), Ecodevelopmental Theory (Szapocznik & Coatsworth, 1999; Zigler & Hall, 2003), Family Systems Theory (Christian, 2006), and Fisher's Narrative Theory (T. D. Fisher, 1986). I drew and adapted from these theories to create the framework for this dissertation's research aims, goals, questions, and contexts.

Primary Theories: Maslow's Hierarchy of Needs and Bandura's Social Learning Theory

The overarching framework for the current work included aspects of Maslow's Hierarchy of Needs (Maslow, 1943) and Bandura's Social Learning Theory (Bandura & McClelland, 1977).

In general, Maslow's Hierarchy of Needs (Maslow, 1943) posits that all human needs and behaviors are hierarchical and organized sequentially, wherein, the needs of each stage must be satisfied to some degree before one can continue onto higher level needs (i.e. higher stages). Maslow's five levels of need are: (1) Physiological, (2) Safety,

(Villarruel, Jemmott, Jemmott, & Ronis) Belonging and love, (4) Esteem, and (5) Self-actualization. According to Maslow, sex and sexuality is a universal human need and appears twice within this hierarchy. Sex is included in the fundamental first level (physiological needs), as both evolutionarily necessary and physiologically driven. At the third level, belonging and love, sexual intimacy is identified as a human need and likely component of relationships, such as romantic-relationships and family.

Maslow's hierarchy, however, does not clearly present sexuality's progression between levels of needs; that is, the hierarchy gives evidence for the progressive nature of sex from a physiological (or intrapersonal) state, to a psychological (or interpersonal) state, but does not specify how this transition occurs. Research has not examined how sexuality transitions through Maslow's hierarchy of needs from a physiological stage (stage 1) to a psychological stage (stage 3). This gap is the basis for the theoretical framework that specifically guides the current work, and is further discussed in the conceptual framework.

In general, Social Learning Theory (Bandura & McClelland, 1977) posits that learning is the result of three core experiences: observing, modeling, and imitating – and, that for children, learning is highly dyadic and dependent on adult guidance and modeling. The current work is draws on the tenet that learning is dyadic: parents and children are mutually responsible for, and mutually contribute to what a child learns (Bandura & McClelland, 1977). Applied to sexuality, Social Learning Theory would suggest that parents provide models and schemas about sexuality during early childhood that children internalize, and imitate later. For example, parents may model affection through physical contact such as hugging and kissing – behaviors that are not inherently

or strictly sexual but, at later ages, can be erotic (i.e. arousing or sexual) within specific contexts (e.g. romantic relationships).

The current work adapts the hierarchical organization presented in Maslow's model with Bandura's dyadic learning process to create a model that simultaneously presents a parent's responsibilities for guiding sexuality development socialization, and a child's sexuality development milestones toward attaining sexual maturity and autonomy (see Figure 2). Before this figure is fully presented, however, it is important to discuss other supporting theories.

Supporting Theories: Ecodevelopmental Model, Family Systems Theory, and Fisher's Narrative Theory

The first supporting theory, the Ecodevelopmental Model (Szapocznik & Coatsworth, 1999; Zigler & Hall, 2003) presents the role and direct influence parents have on children's development. For example, parents determine a child's immediate environment (e.g. home life or neighborhood), and opportunities for interaction (e.g. school or social settings). Longitudinally, the Ecodevelopmental Model suggests that connected and positive parent-child relationships in childhood foster selection of peers with similar values as one's own (and likely values similar to one's parents') during adolescence.

The Ecodevelopmental Model also suggests that the importance of early parent-child relationships is most evident in parents' continued influence during later developmental pathways (Zigler & Hall, 2003); for example, dysfunctional parent-child relationships in childhood may contribute to parent-child distancing during adolescence (Clark, Neighbors, Lesnick, Lynch, & Donovan, 1998), and conflicted parent-child

relationships influence a child's selection of peers with values dissimilar to those of his or her parents (e.g. rebellious adolescents may follow peers with negative or risky-behaviors) (Pettit, Bates, & Dodge, 1997). If a child has a stable and positive relationship with his or her parents, the child is more likely to find peers with values similar to his or her parents' values; thus, if parent values encourage pro-social, health-promoting behaviors, children may form peer-relationships that also foster healthy sexuality development, rather than peer-relationships that encourage risk behaviors.

Ecodevelopmental Model's longitudinal implications for the parent-child relationship highlight the importance of taking a dyadic (parent-child), bidirectional view of sexuality development and socialization. Knowledge about sexuality development and pubertal development is transferred through the parent-child dyad; that is, parents provide children information and values, and children provide parents cues and feedback about what they learn, and still need to learn.

Family Systems Theory views families as dynamic, whole units composed of individuals (Christian, 2006). The adage, a family is greater than the sum of its parts, is exemplified by Family Systems Theory: each individual family member plays a role and experiences change from his or her singular perspective, but also contributes to the family environment in ways that influence the experiences of other family members. For example, in a family of four composed of two parents, a puberty-aged child, and a younger sibling, only the puberty-aged child directly experiences the physical changes associated with puberty, but the entire family experiences puberty indirectly. Family Systems Theory would support that the child's pubertal development creates conditions

that influence or affect other members of the family or the relationships within the family (i.e. parent-child relationships or sibling relationships).

The current work elaborated on tenets of Family Systems Theory with the addition of two terms: primary and secondary agents of change. These terms are used to clarify the person directly experiencing change and the person(s) indirectly affected by change. In the example discussed, the puberty-aged child may be identified as the primary agent of change, and the parents and other sibling may be described as secondary agents of change (indirectly experience change). In a second example, a parent might find his or her three-year old child touching his or her genitals while watching television. The child exploring his or her genitals is experiencing one piece of sexuality development, and is the primary agent of change. The parent, by observing and reacting to the behavior (i.e. change) is the secondary agent.

In this example, the parent is also affected by the behavior, and may experience any number of reactions including surprise and discomfort (especially, if the parent does not expect or is not aware that sexuality is present during early childhood). The parent will likely be responsible for addressing the behavior in some way; for example, redirecting the child to his or her bedroom (i.e. teaching privacy and safety) or redirecting the behavior when it happens outside the home (e.g. at school). The parent's experiences observing, responding and reacting to behaviors make him or her a secondary agent of change (behavior). The designations of primary and secondary also highlight the proximity principles of both the Ecodevelopmental Model and Family Systems Theory.

The family systems approach, as discussed, was applied to children's development of healthy sexuality within the family context. Beginning at infancy, parents

must navigate multiple aspects of their child's sexuality, including gender socialization (i.e. selecting toys) and vocabulary acquisition (i.e. choosing terms for the child's genitals) (Gartrell & Mosbacher, 1984; K. Martin, Verduzco Baker, Torres, & Luke, 2011 & Luke, 2011). These decisions are often overlooked as contributors to the child's sexuality, but may have implications to the child's emerging sexual identity (Chrisman & Couchenour, 2002), and thus influence parent-child relationships in later years. In adolescence, puberty and the emergence of sexual maturity create a complex context for the family and for parenting processes; such complexity further supports the need to consider multiple perspectives within the family (i.e. secondary agents of change).

Narratology is the study of humans' intrinsic tendency to share stories and the study of the components of complex storytelling (i.e. content, structure, and purpose) (Browning, Littlejohn, & Foss, 2009; Kauffman, Orbe, Johnson, & Cooke-Jackson, 2013). The third supporting theory, Fisher's Narrative Theory (W. R. Fisher, 1987) provided a specific theoretical lens inclusive of the primary and supporting theories: health communication. In general, Fisher's Narrative Theory presents that humans are natural storytellers, and stories (i.e. communicated narratives of one's own experiences) are shared with the purpose of guiding behaviors (Browning et al., 2009; Edgar & Volkman, 2012; W. R. Fisher, 1987).

The current work applied Fisher's Narrative Theory to family socialization of sexuality and puberty. It was hypothesized that parents, specifically parent-couples, socialize their child's sexuality development using their individual narratives (i.e. the stories they tell to share experiences and lessons) and mutually developed narratives. In

general, this assumption supported sampling parents, the likeliest agents involved in children's development of sexuality and physical maturity.

For study 1 specifically, Fisher's Narrative Theory supported the importance of assessing parent understanding and expectations (and dyadic cohesion) of children's sexuality development, including concept, milestones, and needs. Fisher's Narrative Theory also supported exploring parents' understanding of sexuality as a concept and recollections of their own sexuality development, as unconscious or implicit forces influential to the interpretations parents will make, and the guidance they will give, about children's sexuality development. Fisher's Narrative Theory also supported examining how mothers' observations of their child's growth (e.g. reports of their child's puberty-related physical growth) are related to mother-child communication (study 2).

CONCEPTUAL FRAMEWORK

Figure 2 was developed specifically to guide the work and contributions of this dissertation. I designed figure 2 based on Maslow's Hierarchy of Needs triangle, which shows that lower level needs (base of the triangle) must be satisfied before moving toward higher level-needs (apex). Instead of keeping Maslow's triangle upright, however, I flipped it horizontally (to show skill progression and chronicity) and divided into two right triangles (to show parent and child responsibilities exclusively and mutually).

As a whole, Figure 2 presents a model for sexuality development and family sexuality socialization across the life course. Figure 2 should be read as a composite of two right triangles – the top right triangle shows parents' role for socializing children's sexuality development and the bottom right triangle shows children's role in sexuality education. Together, the triangles illustrate sexuality socialization as the transmission of

knowledge, culture, values, attitudes, and beliefs of sexuality, within the family system, between parents and children. Chronicity is presented across ages, from birth to adulthood (where adulthood serves as remaining lifespan). Development at specific ages is presented through stages, where development progresses from one stage to the next as it would from one age (developmental) period to the next.

Additionally, there are two important caveats regarding figure 2. First, it is important to recall that the current work employed a comprehensive definition of "sexuality;" that is, sexuality development includes various aspects including gender, sexual identity, sexuality, physical growth, and interpersonal processes related to developing autonomous and healthy sexual agency. Second, it is important to note that the current work did not test or examine all of Figure 2.

This section will discuss key components of Figure 2, including target agents (parents and offspring), lifespan categories, and stages of sexuality development relevant to studies 1 and 2.

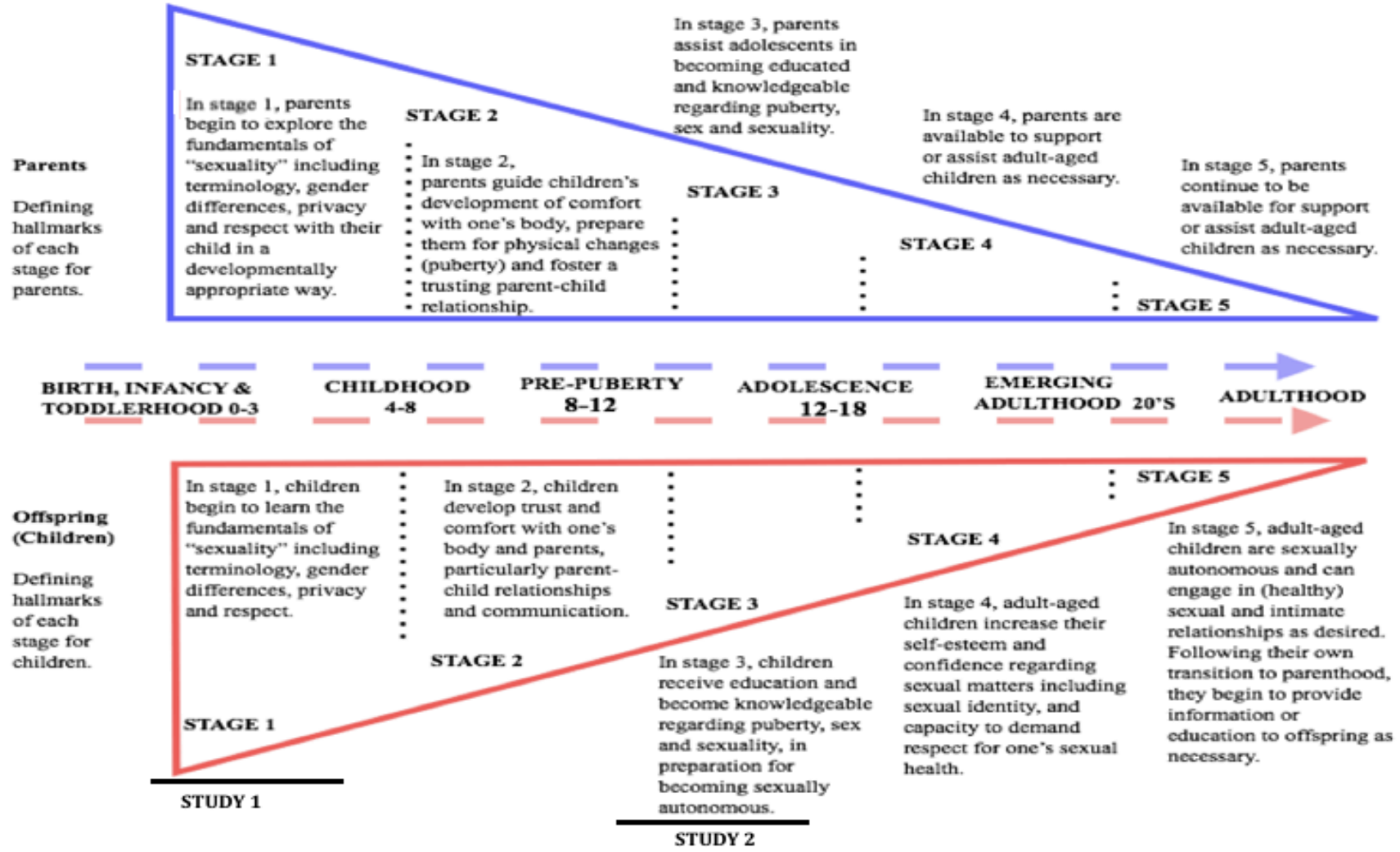

Figure 2: Conceptual Framework

Note: Figure 2 shows the conceptual framework guides the proposed work's broad purpose and future implications. The triangle shape is adopted from Maslow's Hierarchy of Needs, wherein the broad base of the triangle holds the most basic needs, and needs increase in complexity toward the apex. This remains true for the present triangle, but, by turning it horizontally, the figure can also illustrate age (timeline). The conceptual framework includes three general areas: (1) Target agent (i.e. Parent or offspring), (2) Lifespan category (e.g. birth, childhood, pre-puberty, etc.), and (Villarruel et al.) Sexuality development stage (e.g. stage 1-5). The three general areas are used to specify a target population, developmental period, and developmental hallmarks. The current work examines parenting processes (i.e. target agent: parent) related to sexuality development (i.e. primarily stage 1) during offspring's lifespan category one (birth, infancy, and toddlerhood). Study 2 examines parenting processes (i.e. target agent: parent) related to pubertal development (e.g. primarily stage 3) during offspring's lifespan categories pre-pubescence and adolescence (i.e. specifically ages 12-15).

Parent-Child Exchanges

The presented conceptual framework emphasizes the need for bidirectional parent-child exchanges toward children's sexuality development. As illustrated in Figure 2, parents are primary agents of sexuality socialization for their children, and through their new parent-lens experience their child's growth and development. Research in the fields of sexuality, sexual behaviors, and their intersections, however, has focused principally on the child, and only peripherally on parents; recall that only limited work has focused on sexuality development as the development of holistic sexuality beginning in early childhood. The conceptual framework emphasizes that parents are not peripheral but integral, and necessary to their child's sexuality development. For this reason, parents, not children (nor adolescents) are identified as the target population of the current work. Parents influence what their children think for many components of sexuality, such as: how they feel about their bodies, others' bodies, what constitutes privacy, what trust means, and what 'healthy' means. Parents influence these and many other components of sexuality, through their role and responsibilities as parents, and may or may not entirely aware that what they convey to their children, as early as infancy, contributes to children's working models of sexuality.

Although the current work does not directly assess children, children are half the conceptual framework. In parenting (the process of caring for children), parents and children interact by exchanging cues and responses, similar to serve and return feedback loops, for example, a boy who has learned the word "penis" may later ask why only boys have a penis, thus cueing a parent's response of providing information. Parents' progression through each stage of the framework will largely depend on the feedback

given directly or indirectly by children. At various aspects, parents provide information to children about sexuality without solicitation; for example, infants do not inquire about their gender, yet parents label gender during infancy.

At other times, children will solicit information explicitly through questions or implicitly through behaviors. For example, children may explicitly ask about gender, 'what is the difference between a boy and a girl?' or implicitly, point to one restroom door while moving toward the other (as if asking a question by directing a parent's attention). In adolescence, these questions may become, 'do boys experience anything similar to girls' periods?' or wandering to the condoms while a parent shops nearby. When parents answer questions and react to behaviors, they are actively contributing to children's sexuality development. Such transactions between parents and children would continue through each stage of sexuality development, evolving according to the broader parent-child relationship.

Lifespan categories

The conceptual framework suggests that sexuality development should be examined across the lifespan as an emerging and evolving process. Six lifespan categories are defined in the current framework: (1) birth, infancy, toddlerhood (0-3), (2) childhood (ages 4-8), (Villarruel et al., 2004) pre-pubescence (ages 8-12), (4) adolescence (ages 12-18), (5) emerging adulthood (early to late 20's), and (6) adulthood. It is important to note that the age ranges included specified for each stage are drawn from general perspectives on children's development, not from more nuanced development. The present work focused on category 1 (study 1) and category 4 (study 2).

Category 1: Birth to Toddlerhood: Focal Category of Study 1.

Category one, birth through early preschool, includes years 0-3. Birth is included in the model as the point of initiation of the parent-child relationship. Although in utero development and spousal relationships may play a role in a child's development during pregnancy prior to birth, the current model includes the prenatal period within the category of birth. Age three often marks the end of toddlerhood and beginning of early preschool. At this point language is recognizable and understandable as speech (i.e. short sentences rather than two-word phrases).

Study 1 examined parents of children within lifespan category one, and prompted parents to consider sexuality development in later lifespan categories. It was hypothesized that few parents would be aware of their child's sexuality at this stage, while more parents would expect sexuality development to begin closer to adolescence. The hypothesis of low awareness of sexuality development at category 1 was informed by the cultural climate of the United States, and extant work on parents' understanding of childhood sexuality (Bobier & Martin, 2016; Rothbaum et al., 1997; Schalet, 2011; Stone, Ingham, & Gibbins, 2013 2013).

Category one was chosen as it marks the commencement of the parent-child relationship and the parent-parent dyad (which should be distinguished from spousal dyads where relationship does not include children).

Category 2: Childhood (ages 4-8).

Category two, childhood, includes years 4-8. The start of this period typically coincides with the transition to school (i.e. attending pre-kinder or kinder), at which point gender identification, gender socialization, and early peer relationships receive greater

attention. Children become more aware of physical differences between genders and friends are often selected on the basis of gender (e.g. early friendships are predominantly same-sex and transition to accepting opposite-sex peers in elementary school) (Berk, 2013). Physical growth occurs rapidly and can lead children to additional curiosity about their own bodies and their peers (particularly opposite sex peers) (Chrisman & Couchenour, 2002). During this period, children's emotional development includes an increased sense of self, self-esteem, and display of affection – all of which have underpinnings to later sexuality development (Berk, 2013; Chrisman & Couchenour, 2002).

I expected that parents in study 1 would provide examples of sexuality development milestones seen in category 2 through their stories of children's behaviors (descriptions of what their child has done). It is also important to recognize the fluidity within development, such that a child age 3-but-not-yet-4 may exhibit milestones similar to 4-year-old child.

Category 3: Pre-pubescence (ages 8-12).

Category three, pre-pubescence, includes years 8-12, prior to the onset of puberty. This is an important period of time during which many initial processes for physical maturation begin within the child's body. Although puberty may not be a prioritized or salient concern for parents of children in this age group (8-12), physical maturation at this time may be in process internally. This period may also include children who reach puberty earlier, particularly with respect to primary sex characteristics (i.e. physical growth milestones involving the development of the reproductive system, such as menarche). The conceptual framework does not ignore off-time development, but does

not explicitly present hypotheses for children with significantly atypical-pubertal timing. Atypical development of clinical concern, termed precocious puberty, is valenced towards early development that exceeds mean age of development by more than two years, in this case development seen as early as ages 8-9 years (Sørensen et al., 2012). Since the conceptual model considers sexuality development to be continuous and hierarchical, it is not necessary to explicitly identify non-normative development within the guiding framework. The present work did not directly address sexuality development within category three. Findings from study 1 could inform future work regarding sexuality development.

Category 4: Adolescence (ages 12-18): Inclusive of the focal category of Study 2 (ages 12-15).

Category four, adolescence (ages 12-18), begins at the mean age of pubertal onset for a general adolescent population, including males and females (Sørensen et al., 2012) and ends at the legally designated start of adulthood. The onset of puberty in females is often marked by menarche and breast development; both milestones are considered typical between the ages of 11-13 years of age (Sørensen et al., 2012). For males, the onset of puberty is marked by increased testicular volume and penile size, and growth of pubic or facial hair (Sørensen et al., 2012). Although pubertal development is considered to be near completion around age 15, the category of adolescence extends to age 18 as physical growth continues and merges with other goals of adolescence such as identity formation, self-sufficiency and autonomy.

In category four, behavior is also markedly distinct from previous ages. The increased concern with developing independence, autonomy, and one's own identity are key

characteristics of the growth that occurs during adolescence (Berk, 2007; Steinberg & Morris, 2001). If adolescence is the bridge between childhood and adulthood: where half the bridge is constructed from the values about sexuality that parents taught during childhood (cumulatively ages 0-12), and the other half is constructed during adolescence, from the adolescent's own experiences of sexuality development; then, completing this bridge in a way that follows parent's values, requires the first half of the bridge be stable and secure. The first half, what an adolescent understands his or her parent would expect and encourage, must withstand the competing influence peers have during adolescence. Relationships with peers become more important than relationships with one's parents, and peer influences are greater than parental influences, particularly within the realm of sexuality (Ragsdale et al., 2014). Indeed, recent evidence compares the degree of importance between parent and peer communication in longitudinal models. This view of adolescence, although presented through analogy, supports the view that preceding lifespan categories are important factors that impact life during adolescence.

Categories 5 and 6: Emerging Adulthood and Adulthood.

Lifespan categories five and six, emerging adulthood and adulthood, encompass the years between legal adulthood (age 18, when parental permission often becomes unnecessary), and the point at which the child, now an adult, identifies him or herself as an "adult." Within the current social context of the 21st century, it is difficult to draw a clear demarcation between these two lifespan categories. Research supports that identification of belonging in category five or six is a fluid process, often guided by the achievement of milestones including completing school, moving out of the family home, getting married, and having children (Arnett, 2001, 2003; Tagliabue, Crocetti, & Lanz,

2015). Although the current studies do not explicitly consider these lifespan categories, both are important in the inter-generational transference of knowledge and family values (overarching goal).

Within the family context, parents guide children's growth, then children grow and may become parents themselves. Through this cycle, family-driven sexuality development can have longitudinal effects across many generations. In the current framework, one can surmise that the child in category one will progress towards adulthood through each category. At category six, if (or when) the adult-aged offspring becomes a parent him or her selves, he or she moves into the parent half of the framework. In this way, each person has two frameworks: one that depicts childhood, and one that depicts parenthood. This cyclical (inter-generational) component of sexuality development emphasizes the importance of dyadic and continuous sexuality development education through all ages.

Study 2 sampled from ages 12-15 within this category during which a child's pubertal development may be beginning, occurring, or ending, in order to glean from mothers' present-time experience. Existing literature contributed information to support the hallmarks and milestones of this category for children; study 2 sought information for the hallmark and milestones of this category for parents.

Stages of sexuality development

The lifespan approach, illustrated by the six lifespan-categories, also supports a hierarchical view of how sexuality, sexual competency, and sexual autonomy develop. From this perspective, the conceptual framework follows suit with other developmental theories by proposing specific hallmarks affiliated with sexuality development at each

lifespan category. It is important to note that lifespan categories and sexual development stages are distinct components of the conceptual framework, presented in Figure 2. The lifespan categories, as discussed, map onto universal growth periods marked by approximate, but not specific, ages. The stages of sexuality development layer over these lifespan categories to illustrate the sequential process from one stage to the next, presumed of healthy sexuality development.

Becoming sexually mature is a process not limited to the physical changes that occur during puberty, or the behaviors that often define sexual activity or sexually active status. The process of becoming sexually mature begins as early as infancy and extends into adulthood (DeLamater & Friedrich, 2002). At birth, an infant is not simply a blank slate, he or she is already the product of countless decisions made by parents. From that point forward, the infant will continue to be shaped by many factors, including parents, family, friends, community, and society, most likely for the remainder of his or her life (Bronfenbrenner & Morris, 2007).

Stage 1: Birth, Infancy and Toddlerhood. Focal stage of Study 1.

The first stage of sexuality development maps across the lifespan categories of birth, infancy, and toddlerhood. At this stage, parents guide children's sexuality development largely indirectly or implicitly. Parents are likely to focus their efforts on teaching gender terms and gender differences, particularly during early language acquisition and early peer relationships. Parents may also begin to teach children about privacy and respect. Within the domain of sexuality, privacy and respect may be related to children's bodies, bathroom training, awareness of personal space, and personal boundaries. The hallmarks

of children's development during stage 1 reflect their mastery of these skills fostered by parents.

Parents should provide guidance that is developmentally appropriate and adjusted to each child's age and competency. In order to provide appropriate guidance, however, parents must know and understand what is typical and expected development at each age. Within stage 1, parents can expect infants and toddlers to explore their body and genitals, and identify as male or female. Preschoolers can be expected to explore genitalia differences, masturbate, and question where babies come from. School aged children can be expected to deepen their curiosity of pregnancy and birth, emphasize same-sex friendships, have a basic sexual orientation, and continue masturbation (as a natural soothing and pleasant activity) (Chrisman & Couchenour, 2002) see Appendix B for complete listing of developmental expectations).

Stage 2. Pre-pubescence.

The second stage of sexuality development maps across the lifespan category of pre-pubescence (pre-puberty). At this stage, children's development has progressed sufficiently to elicit more direct guidance from parents through questions, comments, and behaviors. Parents still indirectly model attitudes, beliefs, and expectations that may influence children's sexuality development. Parents' efforts should focus on fostering comfort with one's body, preparing children for physical changes (puberty), and encouraging trust within the parent-child relationship. Parents should also continue to build upon the teachings of stage 1 to promote children's sense of privacy, self-esteem, and respect as related to their sexuality development. Within the domain of sexuality, privacy at stage 2 should encourage safety and intimacy. For example, children at this age

may naturally engage in masturbating (or other self-pleasuring) behaviors, parents may emphasize how a child may continue to explore his or her body in safe ways – within a private space (e.g. their bedroom) and on his or her own (e.g. without any others present or participating). The hallmarks of children's development during stage 2 reflect their mastery of skills fostered by parents.

During stage 2, it is expected that parents become more attuned to their child's sexuality than they were during stage 1. This increased awareness may result from children's explicit solicitations of information (i.e. asking questions), unintentional demonstrations of knowledge (or lack of knowledge) (e.g. a child surprising parents by repeating the word "penis" as heard from a peer), or children's physical development. Similar to the awareness parents must have of typical expectations for early childhood sexuality in stage 1, parents should have knowledge of physical growth associated with pubertal development that may begin during stage 2 (see Appendix B).

Stage 3: Adolescence. Focal stage of Study 2.

The third stage of sexuality development maps across lifespan category of adolescence as marked by the onset of puberty. Although the onset of puberty is typically thought to occur between ages 12-14 for the majority of boys and girls, actual onset will be individual for each child. The onset of puberty for each child would then mark the entry of a child's parents into stage 3. In general, each child can be expected to experience the universal growth milestones of pubertal development for their biological gender. The most obvious signs of puberty for girls may be menarche (onset of menstruation) and breast development, while boys experience voice deepening and facial hair.

The conceptual framework assumes parents become aware of their child's physical changes (particularly external sex-characteristics) during stage 3. Parents may seek out information regarding their child's developmental status (e.g. ask her if menarche has occurred), or may observe changes indirectly (e.g. notice a change in body odor). Offspring, now referred to as 'adolescents' instead of 'children,' may also volunteer information regarding the physical changes experienced as a way of soliciting information (e.g. a girl may share that menstruation has commenced as a result of needing instrumental support for obtaining or using female hygiene products). The bi-directionality of information transference (i.e. from parent to child or child to parent) contributes to the complexity of the pubertal experience within the family structure (an assumption within study 2).

The pubertal development during stage 3 largely contributes to both parents' and children's hallmark efforts. Parents may focus on providing children with education regarding their experienced physical changes and commonly associated topics including sex, sexuality, and health. It should be noted that the type of education provided by parents is likely to be value-driven, rather than empirical or curricular. Parents may provide information to varying degrees, including no information at all, particularly if puberty, sex, or sexuality are considered taboo topics (Heisler, 2005). As with preceding stages, the hallmarks of children's development during stage 3 reflect their increasing knowledge of pubertal development.

In addition to the pubertal growth during stage 3, adolescents' increasing autonomy, increasing capacity for willful arousal (i.e. eroticism), and increasing hormonal drive for sexual interests may result in the emergence of sexual activity (i.e. oral sex, vaginal

intercourse, anal sex, or other sexual behaviors). In order to promote the importance of health and self-care within any and all sexual behaviors, parents should also provide adolescents information regarding sex and sexual health (or guidance towards informational resources such as educational books or medical professionals). Adolescents themselves may become autonomous sexual agents, and decide what (if any) sexual behaviors to engage in, and the parameters for these behaviors (e.g. vaginal intercourse with condom use).

Stage 4. Emerging Adulthood.

The fourth stage of sexuality development maps across the lifespan category of emerging adulthood. During this stage, it is expected that offspring have reached sexual autonomy, and parents' roles have become auxiliary and peripheral. Parents may continue to be available to assist adult-aged children if necessary, but are less likely to be proximal to their child and have the same influence as in previous stages. Offspring at this stage are also expected to need or seek less guidance from parents for sexuality related decisions. Offspring at this stage are navigating various aspects of adulthood and further establishing their sexuality. Although navigating one's sexuality during stage four may include engaging in sexual behaviors, it is important to note that the sexually autonomy achieved in stage four can also include the decision to abstain from sexual intercourse or sexual behaviors. Adults within this stage may be knowledgeable about sexuality and sex, and chose to date or have romantic relationships, while simultaneously choosing to not engage in sexual behaviors. The hallmarks of stage four for child offspring no longer mirror the efforts of parents as in previous stages, rather, are

concerned with establishment of confident, health oriented sexuality individually and within partnerships (i.e. sexually-conscious relationships).

Stage 5. Adulthood. (After The Transition to Parenthood).

The fifth stage of sexuality development maps across the lifespan category of adulthood, more specifically, over parenthood. The conceptual framework does assume that the transition to parenthood occurs at a typically expected time (i.e. not during adolescence, 'teen-pregnancy'). At this stage, parents' role continues to be to assist adult-aged offspring as necessary. Parents, now grandparents, may also extend guidance learned from their own progression through the earlier stages. Offspring, now parents, will transfer into the responsibility of developing their child's sexuality. In this way, new parents move into their second framework – the top triangle – and the inter-generational transmission of sexuality education continues.

All individuals may continue to develop their own sexuality throughout life; however, the conceptual framework does not extend through later life sexuality, as it is not specifically pertinent to the current work.

In summary, the conceptual framework illustrates the theoretical basis for the current work and the overlap in broader aims for both studies 1 and 2. Study 1targeted parents within stage 1, while study 2 targeted mothers within stages 2 and 3. Existing literature specific to each study is presented within individual chapters.

Chapter 3: Parenting And Children's Sexuality Development In Early Childhood

OVERVIEW

Contrary to assumptions, sexuality, is a multifaceted concept, that includes many aspects of one's being and environment, and begins to develop as early as infancy (Chrisman & Couchenour, 2002). The little attention sexuality development has received in previous research is likely the result of barriers of sensitivity or uncertainty that sexuality exists during childhood (Bobier & Martin, 2016; Ponzetti Jr, 2016a). In this study I explored how contemporary parents view sexuality as a concept and as it a component of early childhood development, and their knowledge of sexuality development milestones.

BACKGROUND

Building on the theoretical framework and conceptual framework previously discussed, this section elaborates existing literature specifically relevant to this study. As a qualitative study, the present literature review focuses on the need for this study, and hypothesized themes.

Early Sexuality Development

During early childhood, typically years between birth and age 5, children rapidly gain new skills and capacities, measured through developmental milestones and achievements. The capacities, milestones and skills gained during these years are the foundation for all other learning through childhood and later life. During these years, parents, and researchers alike, focus on four developmental domains – cognitive, social, emotional, and physical – and a myriad of milestones within each. For sexuality development,

however, early social and physical milestones are often unrecognized as comprising sexuality development. For example, toddlers' learning the words 'mom' and 'dad,' are also learning about gender. The word 'parent' may be gender-neutral, but the words mom and dad specifically indicate a parent of female or male gender; in this way, gender socialization – the teaching of social and cultural rules and norms about gender – begins. Parents may construct another example of gender socialization before the child is even born: nursery decorations. The association of colors with genders is an integrated piece of society to the extent that specific colors indicate specific genders: items for baby girls are often pink or purple, while items for baby boys tend to be blue or green (Weisgram, Fulcher, & Dinella, 2014). The interaction of gender (as assigned from physical sex), colors, and language illustrate how physical and social aspects of the child's environment contribute initial seeds to their sexuality development.

Indeed, early childhood sexuality development and milestones set vital foundations for how children will view their own sexuality and sexuality as a broader concept later in life (as illustrated within the theoretical and conceptual frameworks) (Kappelman, 1989). What children learn, observe, and absorb, directly or indirectly, during early childhood impacts their language acquisition, trust, and parent-child communication; all, important determinants of family socialization (Parke & Buriel, 2007). Although parents may not expect sexuality to begin until closer to adolescence, what they teach about sexuality, knowingly or not, will impact the child's comfort and openness for communication about sexuality (and sex) during adolescence (Breuner & Mattson, 2016; Kappelman, 1989). Likewise, children will learn whether their parent is open to providing sexuality information in the future, from how parents respond to

children's questions and behaviors related to sexuality development during early childhood (Breuner & Mattson, 2016; Kappelman, 1989).

The following sections present developmental milestones of early childhood, focusing on ages 1 – 4 (approximately 12 – 47 months), that may contribute to one's sexuality development.

During early childhood years, parents contribute language and vocabulary to children's sexuality development. Assuming typical and healthy physical development, language acquisition begins prenatally, as well as in infancy, with hearing the phonetic sounds that make up the language spoken in the child's immediate environment (i.e. first language or language spoken at home). In summary, language development milestones include: babbling and mimicry (at 10 months), initial formation of recognizable words (between 12-18 months), improvements in intonation (between 24-30 months), and further improvement in pronunciation at 36 months and beyond. Throughout this process, the words and phrases adults and others say around children make up children's vocabulary. Parents often teach vocabulary directly during play interactions; for example, when a parent holds a small stuffed bear to a child and says, "bear, look at the bear," the child learns to associate the object with the word "bear." After many repetitions, the child will independently recognize and identify the object as a bear. Additionally, children acquire language indirectly through observing interactions (even interactions not directly aimed at the child).

When it comes to sexuality, the language passed from parent to child is more than terminology; the words used to describe one's body and genitalia indirectly give children information about how they should perceive, speak of, and feel about these body parts

(Chrisman & Couchenour, 2002; Gartrell & Mosbacher, 1984). For example, parents speaking to their infant during diaper changes or to their toddler during toilet training are likely to reference the child's body and genitals. These present key opportunities for parents to teach vocabulary that will influence how the child feels about his or her body. Specific male and female genitalia typically dictate the child's given gender and parents' use of "boy" or "girl." Although gender labels appear non-sexual, they are rooted in the existence of reproductive organs, which will become purposefully sexual in later life, through pubertal development. Parents might find it comfortable, even mundane to teach their child the vocabulary for gender (e.g. girl), but find it less comfortable to teach their child the vocabulary for the genitals that initially determine gender (i.e. vulva or penis). While no research to date has found specific empirical support that parents are uncomfortable using words like penis, vulva or vagina for their child's body parts, research has found that women report feeling uncomfortable using anatomical words for their own bodies, and use euphemistic phrases in lieu of vulva or vagina (K. Martin et al., 2011; K. A. Martin, 2014). Given that adult women struggle to use correct words for their own bodies, and use euphemisms including, "wee-wee" or "pee-pee," one can deduce some level of discomfort exists, and prevents the use of anatomical terms (K. Martin et al., 2011). One hypothesized theme may emerge around parents' use of euphemisms and accurate language.

Parents and Early Sexuality Development

To this point, the developmental nature of sexuality presented in the theoretical and conceptual model is informed by theory rather than empirical work. However, there is nearly no empirical work on parenting through sexuality development, outside the

adolescent period, conducted within the past fifteen years in the United States. Within the United States, the most relevant work was conducted 22-years-ago, with parents of children ages 10-weeks to 24 years-old (Geasler, Dannison, & Edlund, 1995).

A review of literature from recent years (within fifteen years), one notable, and similar, study was found originating in the U.K.; Stone, Ingham, and Gibbins (2013) qualitatively examined barriers to sexuality education for parents of children ages 3-7. Thematic analysis identified several barriers to providing sexuality education, including preservation of innocence, appropriateness of explanations to the child's age, and personal discomfort. The present study sampled parents of children slightly younger, 12 – 47 months and focused on gaining parents' view of sexuality in childhood, which as a concept can be considered an antecedent to sexuality education.

Within the United States, only one study was found that related to early childhood sexuality. Martin (2014) qualitatively assessed investigative reports made to the Michigan Department of Human Services (Child Care Licensing database records). Across the examined reports, researchers concluded that the interpretation of sexual behavior in children most greatly depended on the person(s) reporting the incident ('sexual' event) and the person's view of childhood sexual behaviors as either natural (pertaining to childhood curiosity), indicative of sexual abuse, or indicative of the child as a sexual offender (future). Similar to Martin (2014), the current work expected to find that a person's own view of sexuality as natural, positive or negative, and applicable to childhood, would underlie any interpretations and reactions to children's sexuality behaviors. The current work also expected to find that more information about childhood

sexuality is necessary and would be beneficial for parents struggling to understand sexuality behaviors (i.e. what is and is not developmentally appropriate and expected).

Additionally, the following research gaps are identified and addressed: a) what adults presently consider sexuality, b) how parents view sexuality in relation to their children, c) the early construction of parent-child relationships relative to sexuality development (specifically during infancy, toddlerhood, and preschool ages). This study qualitatively explored each gap, and through thematic analyses, the connections between gaps.

In this study, I explored, broadly, are parents aware that sexuality development occurs during early childhood? In order to fully answer this, I examined four specific research questions: 1) How do modern-day parents (i.e. parents today) define sexuality, and relate sexuality to early childhood, particularly their child's development?, 2) What attitudes, assumptions, or beliefs underlie what and how parents conceptualize sexuality in childhood?, 3) Do parents recognize milestones of sexuality development, how well, and how accurately are they able to match milestones with the appropriate age?, and 4) What role might pediatricians play in educating parents about childhood sexuality development? Research question four targeted pediatricians because they may be key stakeholders for society's recognition of childhood sexuality development. This study expected to contribute to existing literature through addressing these questions, as well as sampling parents previously omitted from research; that is, a sample of parents with young children, rather than the commonly used sample of parents with adolescent children.

METHODOLOGY

Overview of Methodology

In this qualitative study, I explored if sexuality development is a concept salient to parents of young children. Specifically, this study explored parents' opinions and knowledge of sexuality during early childhood, parents' awareness of physical milestones in early childhood related to sexuality development, and parents' knowledge of sexuality milestones from infancy to adolescence. Interviews inquired about parents' definitions of sexuality, acuity to their child's sexual development, sources of information and guidance, and expectations for socialization processes. Parents participated as couples (i.e. dyads) and individuals (i.e. solo parents, when partners were unable to attend an interview). Participation included an initial individual interview, an activity (completed as a dyad or solo), and a post-activity interview (also completed as a dyad or solo). Interview data was analyzed using a thematic approach (thematic analysis) and activity data was analyzed against correct answers and for the direction of expectations (i.e. expected earlier or later than actually occurs).

Sample

Recruitment efforts drew participants from within The University of Texas community, specifically the Priscilla Pond Flawn Child and Family Laboratory (PPFCFL), the UT Child Development Centers (UT CDCs), and KnowEvents. The PPFCFL and UT CDCs are both early childhood education programs at The University of Texas at Austin that give preference in enrollment to university faculty and staff. KnowEvents is the university's research and event announcement newsletter.

In order to participate, participants met the following eligibility criteria:

1. Participants must identify as a cohabiting and co-parenting couple.
2. The couple's oldest child must be between 12 and 47 months (i.e. at least 1 year old and not yet 4 years old).
3. The target child must be biological to both parents so that no third-parental figure exists (i.e. the child cannot be a stepchild to one parent where another biological parent exists).

The sample was a convenience sample appropriate to the study's purpose, scope, and exploratory nature. I selected the recruitment sources because the study focused on early childhood (ages 12-47 months) matched key enrollment ages of both child development programs.

Additionally, I considered the target child's age during recruitment to explore variability in parenting which may result from the child's age. Participating parents were assigned to one of four specific child-age category based on their child's age: 1) 12-18 months, 2) 19-24 months, 3) 25-36 months, 4) 37-47 months. By sampling parent-couples according to specific subgroups of the child's age, this study was able to inquire about the general period of development (i.e. ages 12-47 mo.) while also considering that parents of older children would have more experiences to draw from during interviews as their child would be further in development. For example, parents within the youngest subgroup, 12-18 months are unlikely to have the experience of answering their child's questions compared to parents within the subgroups of 25-36 months or 37-47 months.

Recruitment procedures first sought an ideal sample, but allowed for an alternate sample due to expected scheduling challenges. Each couple-participation visit required an

hour-and-a-half overlap in the schedule of seven people, including two parents, four research assistants, and the PI, as well as availability in two conference rooms.

In the ideal sample, all participants would participate as couples and the target child-age categories would be filled with two children aged 12-18 months, two children aged 19-23 months, four children 25-36 months, and four children 37-47 months. In the alternate sample, parents could participate individually if the visit had been scheduled and rescheduled several times in attempts to include both parents. Additionally, recruitment flexibility was required when the target child moved between age categories in the time between when the parent completed the screening form, was scheduled for a visit, and the actual participation visit occurred. That is, if a parent-couple scheduled a visit in February, but then rescheduled to March, and the child had a birthday between the original date and the actual date of participation, the child moved between categories.

Procedures

For this study, I recruited participants using online and electronic mail (email) advertisements. Research announcements (e.g. email or flier) informed potential participants of the study purpose, eligibility criteria, and what participation involved. Announcements also included a link to an online screening form that helped determined eligibility. The screening form, programmed on Qualtrics, asked interested persons various items that determined eligibility (as given by the eligibility criteria). The screening form was designed to assess the eligibility for the couple, even though only one parent completed the form.

At the end of the screening form, if Qualtrics programming determined the person was eligible to participate, he or she was asked whether he/she, and their partner would

be able to complete a 45-minute interview, and asked for contact information to be used to schedule a participation visit. If responses were such that the person was not eligible to participate (e.g. answered they did not have children, were not married, or did not cohabit with their partner), Qualtrics programming ended the screening form without progressing to completion.

Overall, 25 persons began the screening form, and 17 completed the screening form as eligible. Of the eight persons who did not complete the entire screening form, only two provided sufficient data to be formally screened as ineligible, both due to not living with their partner. Of the 17 eligible screening forms, two potential participants were not able to attend a visit on campus and preferred a home visit, two other potential participants did not return phone calls, and one potential participant was not able to schedule a visit before the child's fourth birthday, at which point the child's age was not within the eligibility criteria. The remaining 12 screening form participants were scheduled for a participation visit, for a total of 20 participants, 16 as part of a couple (eight dyads) and four individually. Additional sample information is presented within the results.

At each visit participants received additional information regarding the study's purpose, interview procedures, and provided written consent, per IRB guidelines. Participants agreed to complete the interview as a couple (or solo if participating individually, without a spouse) and for the interview to be audio recorded. All participants were assigned an identification number so that no identifying information (e.g. name) was recorded during the interview. After consent, participation was divided

into three stages: 1) Individual interviews, 2) An activity and semi-structured interview as a couple (or individually), and 3) A debriefing survey.

During stage 1, research assistants trained in the role of facilitator (interviewer), interviewed participants individually (without their partner). A research assistant trained as note-taker was also present during the stage 1 interview. Facilitators asked participants questions from the interview guide designed to eliciting information pertaining to the study's research questions and probed responses when elaboration was necessary. Note-takers recorded notes on the participant's body language and physical behavior during the interview. At the conclusion of the interview, participants returned to the conference rom assigned for stage 2. The stage 2 facilitator and note-taker team proceeded to stage 2. The facilitator and note-taker not conducting stage 2 proceeded to the PI's office to complete their own debriefing exercise. After each participation visit, I asked research assistants to provide written reflections about their experience with the participants and their responses. This was done to acknowledge bias and minimize the biases transferred between interviews (Saldaña, 2012). This also allowed the entire research team to engage with data on a continuous basis, and discuss facilitators' and note-takers' experiences and improve probing techniques for subsequent interviews (Saldaña, 2012).

In the first portion of stage-2, and round 1 of the activity, participants completed an activity programmed in Qualtrics using iPad's interactive, touch features. In the activity, participants matched the onset age category for 22 milestones of sexuality development. That is, participants reviewed a list of 22 milestones and dragged-and-dropped each milestone into one of four categories. During round 1, participants completed the activity without any interference or additional information from the

facilitator, so that responses indicated only their present knowledge and understanding of milestones and age categories. After each milestone was placed in a category (i.e. end of round 1) participants returned the iPad to the note-taker who then recorded their responses onto a sheet of paper ('hard copy'). While the note-taker transferred participants' answers, the facilitator asked participants what they thought about the activity (e.g. their reactions, reflections).

The purpose of round 2 was to provide participants an opportunity to receive additional information and change any answers (i.e. second attempt to match milestones correctly). To begin round 2, the participants received the hard copy of their activity and were told they were free to ask questions about the activity, including the milestones and ages. The hardcopy was provided so that participants did not have to speak from memory, and could easily review their responses and see the milestones while speaking to the facilitator. The facilitator answered any questions about milestones by reading the milestone's definition and examples. Note-takers recorded all participant round 1 responses in black ink and provided participants a blue pen during round 2. After receiving any additional information, participants could change answers (using blue ink) or keep their original answers. The facilitator asked participants to write at least one participant's identification number on the hardcopy as a 'signature' that the hardcopy was reviewed. The signed hardcopy was then given to the note-taker to conclude the activity.

The second portion of stage 2, immediately following the activity, was a semi-structured interview with both participants (or individual participants). The purpose of the stage 2 interview was to obtain parents' view of sexuality, specific to their child (more so than in stage 1), and to obtain their view of sexuality relevant to the milestones

introduced with the activity. I expected that the presence of their partner in the stage 2 interview, compared to the stage 1 interview, would encourage parents to lean on each other to construct mutually-provided responses (i.e. build anecdotes together). Alternatively, I also expected that answering questions together could create tension between parents, such that the facilitator's questions and/or the parents' responses prompted additional discussion among parents. Facilitators were trained to conduct two-person interviews and probe in constructive ways that would elicit elaborate responses, while not instigating participant distress.

The participation visit concluded with stage 3, where participants independently, monitored by the facilitator, completed a debriefing survey on Qualtrics. This questionnaire included items meant to debrief participants about their participation and capture screening form information from the participant who did not complete the screening form prior to the visit (recall that only one parent completed the screening form).

Measures

Screening Form.

The screening form collected demographic data (e.g. gender, age, and marital-status), data about participants' children (e.g. first name, age, gender, and biological status), and information about the participant's transition to parenthood (e.g. the couple's intention, preparedness, and desire for children relative to the couple's first pregnancy). Participants' responses to demographic and children items determined their eligibility. Only persons who gave responses within the eligibility criteria proceeded through to

items about the transition to parenthood. Items about the transition to parenthood added context to participants' interview data (see Appendix C).

Stage 1 Interview Guide

The stage 1 interview focused on participants' understanding of sexuality and individual experiences with their child's sexuality development. Facilitators used the stage 1 interview guide to ask participants about their experience with toilet training (specifically as it related to lexicon choices for genitals), their experience discussing sexuality with their pediatrician, and whether their children had asked questions that might indicate the child's sexuality development. Facilitators ended the interview by asking participants if their child has done anything surprising that they might consider part of the child's sexuality development. This final question was used as an ice-breaker for stage 2; that is, it gave the facilitator at least one surprising behavior (or that nothing was surprising), that he/she could use to encourage dialogue between parents (see Appendix D).

Stage 2, Facilitated Activity and Couple Interview

Participants, individually or as couples, completed an activity based on the NAEYC's (National Association for the Education of Young Children) developmental milestones and behaviors for childhood sexuality (Chrisman & Couchenour, 2002) (see Appendix B).

The activity listed 22 milestones including, explore body parts and genitals, masturbation, form same-sex friendships, learn gender-stereotypical behaviors, and have a boyfriend or girlfriend; and four age categories, infancy/toddlerhood, preschool, elementary, pre-adolescence/adolescence. The activity included the last category, pre-

adolescence/adolescence in addition to the milestones and ages specified by the NAEYC to give parents a category they might more readily associate with sexuality development.

I designed the stage-2 interview guide to elicit individual and collaborative responses so that couples felt encouraged to have a conversation about the questions. The structured portion of the interview consisted of ten questions. Initial questions were about participants', parent-to-parent communication regarding their child's sexuality. Facilitators asked participants items including, "As a couple, have you talked about what you'll teach your children about sexuality?," "Before today's visit, had you considered any of your child's development to be related to "sexuality?," and "Do you think your child's gender has anything to do with which parent will take the lead on certain topics?" Facilitators also probed participants' responses to elicit their prior knowledge, new knowledge (learned during the visit or activity), and expectations about future sexuality socialization (see Appendix D - G).

Stage 3: Debriefing Survey

The purpose of the stage-3 survey was to debrief participants about their experience during the visit and their takeaways from the visit. Participants completed the survey on Qualtrics, individually (see Appendix H).

The majority of questions asked participants about their experience during the interview. Items included, "During the interview, I felt…" and "During the interview, I think my spouse felt," answered using a 7-point Likert where higher scores indicate greater comfort (1= "extremely uncomfortable," 3="Neither uncomfortable nor comfortable," and 7= "extremely comfortable"). Items 3-5 asked participants about new knowledge acquired during the interview, items included, "During the interview, did you

learn anything new from the research team?", "During the interview, did you learn anything new about your partner?" and "During the interview, did you learn anything new about yourself?" Participants could respond, "yes," "no", or "unsure; " if a participant indicated "yes" or "unsure," he or she was prompted to elaborate. I expected, and was hopeful, that participating in this study would provide parents with information that might be new or different to their prior understanding of sexuality. For example, presenting parents the World Health Organization definition of sexuality or the sexuality milestones during stage 2, could indirectly teach parents about sexuality or give parents a different perspective from which to view sexuality. I included these items within the stage 3 debriefing survey because I did not expect learning to emerge as a theme, and instead attempted to capture learning through participants' direct responses (i.e. self-reported, typed, responses).

Item 6 asked participants to rate the honesty of the discussion had during the interview in stage 2, "How honest was the discussion between you and your partner/spouse (during stage 2)?" using a 5-point Likert scale where higher scores indicate greater honesty (1= "not honest at all," 3= "mostly honest," and 5= "completely honest").

In order to obtain demographic data and transition to parenthood data from the participant who did not complete the screening from, I included an item that asked participants if he/she completed the screening form prior their visit. Participants who did not complete the screening form (i.e. whose partner was the one who completed the initial screening form) were asked to reply "no" and continue to demographic and transition to parenthood items.

Analysis Plan

Overview

In this study I[1] collected qualitative data through semi-structured interviews and quantitative data through a facilitated activity (stage 2 activity). The study design and data collected, allow for several possible analytic approaches (stated broadly as thematic analyses): 1) thematic analysis of all individual interviews 2) thematic analysis of individual interviews by parent gender, 3) thematic analysis of individual interviews by child age, 4) thematic analysis of stage 1individual interviews compared to couple stage 2 interviews, 5) thematic analysis of stage 2 interviews relative to parent gender (i.e. Do mothers provide more anecdotes of children's behavior than fathers?), 6) thematic analysis comparing the milestone activity (e.g. milestones and responses) to anecdotes of children's behavior (i.e. For which milestones do parents provide examples, through story-telling their child's behavior?), 7) accuracy assessments of milestone activity responses, and 8) accuracy assessments for milestone activity responses by child age.

Given the many ways data could be analyzed, and the original research questions in this dissertation, I present results for the two specific analyses: 1) thematic analysis of all stage 1 individual interviews and 2) accuracy assessments of the milestone activity. These analyses summarized the data collected as a whole and best answered the research questions.

Team Structure Implemented For Analyses

I organized the research team of ten research assistants into two tiers – a senior-researcher tier and a junior-researcher tier – to promote stability within the study and

[1] I completed this study along with a team of ten research assistants. As this is my dissertation, I use "I," as the author and principal investigator, but will specify when research assistants contributed to analyses.

during data collection, and ensure validity and reliability throughout analyses. Senior researchers were four undergraduate student research assistants. All four were present during the study design phase, and three had prior qualitative experience. Prior to the start of this study, I had experience working with three of the four senior researchers for approximately two-and-a-half years (five long university semesters), and with the fourth senior researcher for one year (two long university semesters).

In the second tier, junior research assistants were six students: five undergraduate students at various levels of their undergraduate career, and one high school junior-year student. I selected student researchers who demonstrated strong academic effort and success, attention to detail, and a strong interest in the study topic. Each junior research assistant completed two interviews prior to becoming a part of the research team; first, I interviewed the student, and second, a senior researcher met with the student. Before offering a position, I asked the senior researcher his or her thoughts on the student's fit and contributions to the team.

In addition to academic success, I also considered personality characteristics that would assist data collection efforts. For example, facilitators who are social and inviting are more likely to establish a rapport of trust and comfort with participants, compared to facilitators who are socially shy or abrasive. Though I could train students on the procedural aspects of facilitating and provide instruction for facilitating techniques (e.g. practicing open and genuine body language and responding in a neutral and reflective way), I could not train over more intrinsic characteristics, such as social anxiety or introversion. Students' confidence as facilitators and note-takers was paramount to data collection.

The entire research team received equal training for data collection, data preparation, and data analyses. I further trained research assistants in each tier as necessary, and supervised all data preparation and analyses tasks until confident the student could work independently (when unsupervised shifts were necessary). All members of the research team also participated in bracketing exercises prior to data collection and periodically thereafter (Saldaña, 2012). Bracketing exercises are exercises in personal reflection, wherein researchers identify previous knowledge and potential sources of bias (Saldaña, 2012). In qualitative methods, bracketing exercises (i.e. personal reflections), are especially important to identifying extraneous context and biases (Saldaña, 2012). An audit trail (i.e. a record of decisions, incidents, meetings, analyses, and other reflections regarding the project, data collected, and analyses) was maintained throughout the study (Rodgers & Cowles, 1993).

Data Preparation

Audio-recorded data was transcribed following specific protocols to ensure data management standards. Only I uploaded audio-recordings to UTBox and assigned analyses tasks to research assistants. Each audio recording was prepared for analyses in three steps: 1) transcription, 2) back-transcription, and 3) verification. Junior researchers completed the first step, transcribing audio recordings of interviews verbatim, including audible and distinguishable sounds such as participant laughter, stuttering, and pauses. A senior researcher, to check accuracy, completed the second step, reading the transcript while listening to audio. The senior researcher highlighted any changes or corrections made for two reasons; first, to track junior researcher accuracy, and second, but most importantly, to flag places where participants' speech was hard to understand or difficult

to follow (particularly where participants spoke very quickly or simultaneously). In step 3, I listened to audio recordings while reading transcripts, and transferred verified transcripts from word to excel for coding. In order to address flags, I asked three or four junior and senior researchers (available at overlapping times) to listen to the audio recording as a group and reach a consensus about what was said by whom. When a group could not agree, the transcript read "indistinguishable." During this group-transcription, we also slowed audio-recordings' speed and adjusted the sound volumes and equilibration to obtain better clarity than default settings.

Coding Training

I trained all research assistants in coding procedures following Saldaña (2013) recommendations. A code is defined as 'a word or phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of…data' (Saldaña, 2012). Initially, research assistants coded individually but in a group setting, where I was able to supervise coding, provide instruction, and answer questions to the entire group. This was important so that all research assistants received the same information and benefitted from each other's questions. For example, if a code was unclear to one coder, the group-coding approach allowed all coders to benefit from clarification.

Thematic Analyses

Thematic analysis involved six steps (Saldaña, 2012): (1) open reading of transcripts, (2) second readings with coding, (Villarruel et al.) categorization of codes, (4) sorting of categories into themes/sub-themes, (5) comprehensive review of data, codes, and themes, (6) collaborative review of data, codes, and themes. As an iterative process,

steps occur concurrently or repeatedly throughout analyses until final conclusions are reached. Additionally, transcripts were read, coded, or recoded in matrix-fashion so that as much data is included in preliminary coding (i.e. coding with code lists created en route to a master code list).

Senior researchers conducted open readings of interview transcripts and recorded reactions, possible codes, and other reflections using analytic memos. The goal of open reading is to become familiar with data in its entirety and gain a sense of the scope and breadth of data obtained. During step two, senior researchers identified codes (i.e. first iteration, preliminary code list). Junior researchers, blind to senior researchers' analytic memos/coding and discussions, coded transcript files using the preliminary code list. Junior researchers also recorded analytic memos during coding work (Rodgers & Cowles, 1993; Saldaña, 2013). Coding was reviewed and repeated with additional code lists generated, until a master code list (i.e. final code list) was reached.

For master code list coding, transcripts were assigned in a matrix-fashion, so that each transcript had a primary and secondary junior coder for triangulation with a senior coder. The remaining steps, creating categories, themes/sub-themes, and comprehensive review of data and results, were collaborative, in-person discussions with both senior and junior researchers. Results are presented visually (e.g. word clouds, figures) and include salient quotes as taken from participant interviews that best exemplify results.

I led the research team in conducting thematic analyses of 20 stage 1 individual interviews. For analyses of quantitative data, including demographic information and Milestone Activity responses I used SPSS 24. The following section presents the themes captured across participant stage 1 data. Themes represent coding and categorizing

analyses across all individual interviews, with consideration of the original research questions. Note that participants in the following sections will be referred to as parents (also mothers, fathers, and partners as necessary) because the data captured is strictly contingent on participants' roles as parents, mothers, father, and spouses.

RESULTS

In this section, I present results most relevant to the original study questions. First, thematic analysis results of all stage 1 individual interviews that would best answer the first and second research questions for all parents (recall, How do modern-day parents (i.e. parents today) define sexuality, and relate sexuality to early childhood, particularly their child's development? And, what attitudes, assumptions, or beliefs underlie what and how parents conceptualize sexuality in childhood?). I also present findings regarding pediatricians' provision of sexuality development information (research question four) and participants' experiences. Secondly, I present the results of accuracy assessments of the milestone activity, to answer the third research question (recall, do parents recognize milestones of sexuality development, how well, and how accurately are they able to match milestones with the appropriate age?).

Sample Characteristics

The study sample included a total of 20 parents; 16 of the participants completed the study as a couple (i.e. eight dyads) and four attended individually (i.e. solo participants). All visits occurred between January and May 2017, on The University of Texas at Austin campus. Participants and their children are described in Table 1 strictly by pseudonyms to preserve anonymity.

Participants included 10 fathers (male parents) and 10 mothers (female parents), with an overall mean age of 35.32 years old (*SD = 4.29*). All participants identified as married, cohabiting, and affirmed co-parenting their child(ren) with the participating (or non-participating) spouse. Participants were married for an average of 7.29 years (*SD = 3.42).* Participants also reported generally high values for items that gauged the transition to parenthood; including a mean of 4.53 on a 5-point scale for having discussed children prior to having children *(SD = .80).* Table 2 shows complete descriptive statistics.

Participants shared information on a total of 15 children (12 'target children' within the age group, and 3 siblings) (see Table 1). For each child, whether target or sibling, age was calculated from birthday to visit date. The majority of children were older than two: six children were between 25-36 months, and four children were between 37-47 months. Seven children were girls, and five children were boys (see Table 1).

Themes From Individual Interviews

Four major themes emerged from this study. Table 3 provides a summary of the themes and subthemes. All quotes herein are attributed to participants using first and last name pseudonyms; couples share the same last name pseudonym.

1. Parents rely on their own experiences to form interpretations of their child's behaviors.

2. Parents observe, but are uncertain, about sexuality development in early childhood.

3. Communication about sexuality is limited or implied.

4. Sexuality does not yet apply to their child.

Theme 1: Parents rely on their own experiences to form interpretations of their child's behaviors.

A person's *sexuality*, regardless of definition, is socialized by family, peers, environment and experiences, such that without specific instruction, sexuality becomes whatever that person has lived. Parents relied on their own life experiences to define and construct "sexuality" for themselves and for their children. This theme captured the link and progression between what parents experience and what they later teach children.

Broadly, this theme begins with parents' existing knowledge, and certainty, about sexuality. When asked what sexuality means to them, the majority of parents spoke about sexuality, with uncertainty and doubt, and hesitated to respond. Jenna Smith (age 32), quipped through her definition, "I guess, how am I like a sexual person? I guess. Oh my god, I don't know. *(Small laugh)* Uhh, Sunday morning; good questions. I've never really thought about this. I should have. Sorry," and ended apologizing to the facilitator. Jenna was not alone; a majority of parents had difficulty defining sexuality and had not given it any thought. Kara added, "I guess sexuality would encompass umm, uhh, one's relationship to sex and to their body as it's defined by sex. I don't know. I've never really thought about – No one's really ever asked me that!" Fathers also expressed uncertainty, but narrowed their responses to sexuality as physical, and posed their statements as questions, as if asking the facilitator if they were right. James Johnson, 34, father to his 23-month old daughter and solo participant, shared that sexuality meant "something related to intercourse or reproduction," and elaborated on through questions to the facilitator, "you mean growth hormones, like that? Like identity?"

Other parents, spoke with slightly more confidence, but justified that what little they knew of sexuality they learned from culture, society and family. All parents defined

sexuality based on at least two-of-three things: sex-education, sexual experiences, or family culture. Rita, 26, shared that the director of the LBGTQ center explained sexuality to her in college: “sexuality is kind of what gets someone going. So it’s not exactly gender based, it’s kind of like what you might be attracted to, umm, and how you express that attraction.” Rita felt sexuality was complex, had a spectrum, but mostly related to attraction. Neil, shared sexuality was “one’s own awareness of their sexual appeal, and their attraction to other people sexually,” and elaborated he considered sexuality a part of his present, “I kind of relate that to my-my marriage, and my relationship with my wife… I don’t really think about my childhood necessarily, although (stutters) that’s certainly when you-you know you become aware of it.”

As interview content shifted to the target child, we assessed two subthemes: 1) Parents were able to brainstorm how sexuality could apply to childhood, and 2) Parents’ experiences learning about sexuality were predominantly negative.

The majority of parents reported that sexuality was most associated with adulthood or adolescence, but after hearing the World Health Organization’s definition of sexuality, offered that certain things *could possibly* be seen earlier. Kara explained that the word sexuality made her first think of reproduction and “obvious” part of adulthood, but that “in terms of, like, fantasies, desires, beliefs, sexual orientation, gender identity and roles, [she felt] like that stuff starts in childhood.” Few parents tried to relate sexuality to their child, possibly in an attempt to answer the facilitator in a way that related to the study topic. For example, Jenna, as part of her definition of sexuality, shared, “My little girl is a little girl and our son is our little boy... but we are open minded enough to, you know, if they choose differently somewhere down the road, that's, uhh,

their choice. So um, I think gender and sexual—gender and sex are two different things." Henry, father to an 18-month old son, shared his definition of sexuality, "when I think of sex or sexual orientation or things like that, I think of more, as in, adulthood, but all these things are formed in, in childhood or before childhood or you know, I mean depending on who you talk to and what they believe," ending with a slight admission that his answer was tailored for our study.

As Parents spoke of what they did and did not learn as children and adolescents, about "sex" (and sexuality), they also revealed negative, confusing, at times traumatic experiences – and, more importantly, that those experiences as the reasons they intend to take a more active, and proactive, role in educating their children. Nick, 41, shared how his understanding of sexuality and all things related, was influenced by religion. Growing up, Nick felt pressured by his church to contain inappropriate feelings, but found it confusing that his church also created an environment that awoke his sexuality: "I grew up in a church that -um, really kind of fostered – uh teens and youth hanging' out together a lot, and we would have a lot of lock-ins, like, sleep overs and stuff- and I remember that's where some of this would come out. Like, 'wow, I'm having these feelings, I'm feeling these things that, maybe, you know, I shouldn't, because I'm in an environment of this church, and religion, and that's not where these kind of' things are shown.'"

Of the 14 parents who shared about their own parents' efforts, 13 did not receive any sexuality or puberty information from their parents. Jeffrey, 32, explained his family never discussed sexuality; so growing up, he understood that sexuality "by virtue of, you know, the word sex being in there – and what I gathered from, like pop culture – I just assumed sexuality was sexual behaviors." Katherine Wheeler, 32, shared a salient,

summative example of the lack of education parents themselves received and the lasting consequences, stating her parents "steered totally clear of that conversation." Her father did not approach sexuality, even puberty with her or her sisters because they were girls, and believed it was her "mother's realm to deal with the women problems – that was literally what he called periods: woman problems." Katherine's mother, however, she described as anxious about the subject, "even having three daughters, and having gone through things herself, even just something as easy as teaching me how to shave my legs was like an *event* for her… So, asking her to do sexuality training with her daughters, I think was just beyond what she could do." Instead, Katherine learned about puberty at girl scouts, from a woman who "was a devout Catholic and had a very hard time even saying the word tampon." Her experience had lasting consequences, and influences her parenting goals today, "we didn't get any knowledge from it other than 'sex bad, don't do it!'…It was an awful, awful thing and I want to never put my son through that."

Two parents also spoke of abuse, and though this is not a large portion of the sample, it draws attention to rates of sexual abuse. (The prevalence rate of childhood sexual abuse in the U.S. for girl is 20.1%, and 8.0% for boys (Stoltenborgh, Van Ijzendoorn, Euser, & Bakermans-Kranenburg, 2011) – that is, 1 in 5 girls and 1 in 20 boys may experience child sexual abuse (Finkelhor, Turner, Shattuck, & Hamby, 2015)). One mother, Rita, expressed the importance of teaching her son to value consent, in particular where negative sexual experiences could be prevented. One father, Chris, gave a very elaborate, multi-faceted definition for sexuality but struggled to say what ages he thought were associated with sexuality, he stated, "that's problematic for me because I was – umm – molested young, so – uhh, I was not exposed to sexuality in a very healthy

way." Throughout their interviews, Rita and Chis, more than other parents, revealed the impact of these situations: Rita returned to "consent" as what she most wanted to teach her children, and Chris, "being molested as a child, and hypersensitive to the situation" felt "*paranoid*" that people use "*cutesy* nicknames" and do not seriously consider the potential for abuse. Katherine took this one step further, and explained her outrage and insistence to her own mother to use the word penis: "she kept calling it, like, pee-pee, and I corrected her once, and I said, 'mom, that's a penis.' And, you know, she got upset with me." Katherine described the scene ended when she and Chris, unified and sure of their choice, "both looked at her together, and said 'absolutely not, it's a penis.'"

Theme 2: Parents observe, but are uncertain, about sexuality development in early childhood.

Across all stage 1 interviews, parents shared stories that illustrated their child's (sexuality) development. Parents did not immediately identify anecdotes as examples of sexuality development; when facilitators asked parents if their child had behaved in any way that might be related to sexuality development, most parents replied no or not really. They only elaborated when, as an example of sexuality-development behavior, facilitators gave the example that parents might see male infants have an erection during diaper changes.

Parents of sons, including Rita, quickly adjusted, "Oh yeah, he's definitely had erections, but I've-I've known to expect that." Sally, confirmed that she had also seen her son have erections during diaper changes, thought it was "normal for boys," because "boys are always curious about their genital organs." Parents of daughters also acknowledged that they knew to expect that boys experienced erections and would play

or explore their body, but reported surprise that their daughters did so as well. Janet, 37, mother of two, shared that she was surprised to see her daughter with her "hands in her pants" at school, only two weeks prior to the interview. Janet expected "to see a boy do that sooner than a girl," and her surprise seemed to still linger throughout the interview as she offered reasons why her daughter's hands were in her pants, including, "because she's starting to wear undies and potty training" and because "they were cold." Of 20 parents, 18 acknowledge genital exploration and/or pleasure with statements as brief and distanced as, "that's happened," and as telling as Hannah's accounts of her daughter's "humping behaviors" that started when she was eight-months old. These observations parents did not recognize as part of children's sexuality development constructed subtheme 1.

Subtheme 2 emerged from the behaviors parents observed, assumed related to sexuality, but did not understand. For some parents, the questions and behaviors they did not understand prompted their participation. Martin shared his 28-month old son has not asked any questions, but does, while sitting on the toilet, say, "my penis is big" – Martin recently was trying to figure out if his son was "referring to the fact he has an erection…or making another kind of observation." While Martin searched for the reason behind his son's observation, Nick searched for the response to his 47-month-old daughter's questions, "Will I get breasts? Dad, am I gonna' get man hairs one day?" Nick thought her questions were the result of her "very interesting imagination, and, uh, some of the things, I think, she gets from TV, and you know, the Ipads." He left the conversation with a simple, and generally accurate response, "No…You're gonna get – um – hairs, but they're gonna be women hairs." Nick continued that he and his wife

signed up for the study because "neither one of our parents were very great at giving us any kind of sexual ed," and where he and his wife struggled to learn about sexuality and puberty, he wants to "be prepared for when she says, 'hey, I feel this way, or think this way…or am confused by something." Nick, Martin, and a total of 18 parents wanted to be able to help their children navigate sexuality (including, puberty and their body).

Sally Martin, shared an especially memorable story, selected by the research team as the most salient example of parents' uncertainty about sexuality development in early childhood. She insisted to her husband that they participate, because her son, 42-months-old, asked her, "when he grows up, would he have a baby in his tummy." Sally was surprised by the question, explained "bluntly" that he would never have a baby in his "tummy" because boys don't have babies, and became surprised by his reaction. She described, "he was really upset, like, he had a meltdown and I kind of thought it was a temper tantrum, so I was kind of trying to discipline him…. He kept getting more and more agitated, it was actually to the point where, I was a little taken-aback, how agitated he was and he just kept saying, 'I don't wanna be a boy, I don't wanna be a boy.'" Sally wondered to if her son's question and reaction was "normal." As a research team we discussed Sally's anecdote, and the tone and emphasis in her voice at several moments (indicated by italicized text). We discussed the idea of "normal" and the distress parents could feel when they want to compare their child's behavior to something, but do not know what that something is.

Theme 3: Communication about sexuality is limited or implied

I expected that parents who participated, particularly those who attended as couples (16), communicated with each other openly and regularly, since partners without

good communication would be unlikely to self-select into an interview study. This initial conjecture, contributed to the distinction between communication-in-general and communication-about-sexuality. Communication itself seemed high across participants and across couples, as evidenced by their speaking for themselves, "I," speaking for their partner, "he would say" or "my wife would say," and speaking for the couple, "we."

About sexuality, however, the communication parents described is better summarized as limited, in duration or substance, or implicit to conversations about tangential topics, often their own sexuality. Connor, when asked how he and his wife agreed on the word 'private' for their daughter's genitals, described their discussion as, "not very extensive, it was just like – um – we agreed to the word. It was probably all of, like, a two, three minute conversation: it was like, 'private?' '*Private?*' 'Yea, that works.'" Connor did not clarify who first offered the word private, but seemed confident that this exchange was sufficient in duration, content and agreement, and more was not necessary, as he ended, "so we don't have all the answers, but it's working for now."

Rita shared that she and her husband, whom did not participate, also agreed on the word private for their daughter's genitals, and discussed it "a little bit here and there – like, we haven't had a full-blown like conversation." Along with Rita and Connor, all participants described communication about sexuality as somewhat existing but moreso assumed. Parents seemed content with agreement that resulted not from discussions, but from being "in earshot" of each other's interactions with the child (as described by Kara). Subtheme 1 captured the sequence of contradictory statements: parents talked about sexuality ("here and there"), while simultaneously not discussing sexuality at length (i.e. full-blown conversations).

Of 20 total parents, only four (two of eight couples), reported having conversations about sexuality, namely what they would call their child's genitals. Jessica and Nick both described discussing what words they would use because they alternate between two languages, as Jessica stated, "we switch a lot from Mandarin to English" and wanted their daughter to have "both names." Chris and Katherine also discussed sexuality; Chris described lengthy conversations were about "what we had been through, and the kind of things that we felt would have let us cope better, or – or react better to those situations while we were children." In comparison, conversations about their son's sexuality development were brief but sufficient because they knew "each other's point of view" and agreed.

It is also possible that another subtheme exists but did not emerge within the present data: parents discuss what they intend to teach children about sexuality before having children, but relax their strategies after children. Jeffrey shared that he and his wife "[tried] to figure out what words we were going to use even before we had kids – and then, uhh, once we had kids, it kind of – you know – we never really could see the conversation, it was kind of, we're just going to go with whatever it is."

Subtheme 2 captured that parents communicate to each other their individual parent-child experiences, and expect to be made aware of most individual parent-child experiences. Jessica shared that her son had not asked any questions about sexuality, to her, and none to her husband who, "would've told me." Jenna was also confident that if her husband had been asked any questions, "he would have kicked that over," which I took as the idiom, that he would send the question for her to answer. No parents

conveyed uncertainty that their partner had kept, or would keep, from them something the child did or asked.

Moreover, stage 1 individual interviews captured examples of a child's specific behavior from both parents, supporting parent's expectations that couples informed each other about their individual experiences. Neil and Jenna Smith both shared their account of their daughter becoming aware of the differences between her body and her brother's. Jenna, when asked about her daughter's behaviors possibly related to sexuality, mentioned that little had occurred until recently. While bathing her daughter and son, she shared, "they have very different parts, and she started noticing it, like, 'what is that?' (laughs) And, you know, I told her very frankly, I said, 'that's his penis, and you have a vagina. And, you now, you guys have different body parts." Neil, who was not present for bath-time, gave his account, "my wife shared with me, [my daughter and son] just took a bath together last night, I think for the first time, and I think they're- they're becoming aware – she's becoming aware, she's starting to compartmentalize boys and girls." Although Neil's account did not convey his wife's responses, Jenna did elaborate that she was confident he used the same words – penis and vagina – because he asked her once during a previous bath time.

Following the team's choice for most salient example of surprising behaviors presented in theme 1, Sally's husband, Nelson gave his own account of his son's question and tantrum. Nelson began specifying that his son had not asked him any questions related to sexuality, but "in her [his wife's] context, and part of the reason she signed up for this study… he asked her (stutters), 'can I have a baby?' and she said, 'no you cannot because you're a boy,' and he, he really was crying because he wanted to have a baby."

Though Nelson did not appear as afflicted by the situation as Sally, possibly because he was not directly involved in the event, he seemed equally interested in getting answers about their son's behavior, and supported Sally's pursuit of information.

Theme 4: Sexuality does not yet apply to their child

The fourth theme supported the hypothesis that parents considered sexuality a part of later development, not of early childhood. As presented within theme 1, the majority of parents associated adulthood and adolescence with sexuality, namely saying sex or sexual behaviors, but using all terms interchangeably. Theme 4 instead captured parent's reasons why sexuality socialization was not a current concern. The majority of parents conveyed one, or both, subthemes: 1) the child is too young to understand, and 2) the child does not have the language capacity necessary for sexuality information, namely anatomically correct words.

As presented within other themes, parents largely held that their child might exhibit a behavior without intention or understanding. Parents described girls exploring their genitals and boys playing with their erections, but couched each instance with statements like, "I don't think she knows what she's doing" (Jenna) or "I don't think he's really interested in his penis" (Rita). Henry felt language itself, saying "pipi" or "wiwi" did not matter yet because at 18-months-old, his son does not "understand that much or if he does, he's not able to talk about it."

The majority of parents reported their use of euphemisms such as "private" or their mixed-use of accurate, "scientific" words alongside euphemisms were due to the child's young age, and limited language capacity, particularly pronunciation. Rita shared that she and her husband, "tried to just call it his penis…but when he was first learning

how to talk, penis was kind of hard to say, and he had trouble, saying an 's' so he kind of lisped it." As a result, Rita and her husband opted to instead say "pee-pee," but she was confident that, "he knows it's his penis." Like Rita, Nick reported that he and his wife agreed the word, "*vagina* is way too hard for a kid to say." They tried using it but when their daughter was unable to pronounce it correctly, they "figure[d] she'd learn that eventually" and reverted to what they "both grew up using the word private – the idea of private is the idea that it's yours, it's yours only." Only six parents reported consistently using the words penis, vulva or vagina without other euphemisms; of these parents, none mentioned any linguistic reason why they could not say these words even if their child could not yet pronounce them.

Euphemisms were tangential to subtheme 2. I initially hypothesized parents' use of euphemisms would result from parents' comfort or beliefs that words such as penis, vagina, or vulva are inappropriate at their child's age. While not true for the majority of parents, several parents had audible changes in their tone or volume when they did say penis, vagina, or vulva. Jessica was explicitly honest: "I don't know why, I just-va-the-word-*vagina* just drives me crazy. I don't like the word – it just, I don't know. *Vagina.* There's more than just your vagina down there, like, you're pee doesn't come out of your vagina." Each time Jessica said the word vagina there was an audible difference in her tone and volume. She did not say vulva during her interview, however, and continued mostly using the word private.

Parents also used euphemisms to describe behaviors, most noticeably when describing masturbatory behaviors. Jeffrey gave a second account of what his wife, Janet, described as their daughter's possible exploration, possible pleasure, possible

masturbation, at school (presented earlier). In Jeffrey's account, "my daughter put her hands in her pants, and is just kind of sitting there watching TV with her hands in her pants but not really like,…I don't think that was necessarily related to her, you know, sexual exploration or anything like that, but I mean, it could be."

In closing theme 4, several parents acknowledged that while their child's behaviors were not always surprising, actually seeing them occur was startling. Kara described feeling "weird" now about bath-time with her daughter, who at 44-months-old, says, "that tickles momma" when Kara uses the shower sprayer. Kara continued, "I guess that does – it's not like that's a sensation that starts with puberty. Like, you're born with the nerves there… Ugh, like, I don't wanna have *to deal with this yet* (*laughs*)."

Key Findings Regarding Pediatricians

Of the 20 parents interviewed, no parent had received information from their pediatrician regarding childhood sexuality or sexuality development. Few parents shared that pediatricians had examined their child's body parts and mentioned to expect erections, but provided no other contextual or developmental information. During each interview facilitators informed parents that the American Academy of Pediatrics recommends that pediatricians begin teaching parents about sexuality development during infancy, and asked parents why they thought such a recommendation existed. Overwhelmingly, parents responded positively – that, it made sense that pediatricians should teach parents what to expect, "because it's supposed to prepare parents" (Jerry) and "to let them know what is within normal, what's normal for a boy or a girl during their development" (James). Pediatricians should also help parents learn what to do so

that their children could be healthy, so that parents know what "might be alarming and the parents [can] share that with the pediatrician" (Jerry).

Many parents also seemed surprised to not have expected nor received information from their pediatrician, but took responsibility themselves for not asking the pediatrician any questions about their child's sexuality development. Nick added that he did think it was important that his daughter's pediatrician address sexuality, and "after this study, I will probably- you know – probe him a little bit more, like, 'when should we start talking about stuff life this?'" Still, few parents rationalized that pediatricians were likely following society's belief that sexuality is a part of adolescence, not early childhood: as Janet mentioned, "I'm guessing it's just because she doesn't feel that my kids are like, old enough to have to discuss with us anything about sexuality." Janet herself first responded that sexuality began at puberty, but at this point in the interview, adjusted that she would "disagree with her [the pediatrician] on some level if that's her reason why." Regardless of the age parents initially associated to sexuality, by the point in the interview when facilitators asked about pediatricians, parents all agreed that pediatricians should have already talked to them about their child's sexuality development.

Key Findings from the Debriefing Survey

Although the stage 3 debriefing survey was designed to obtain information about participants' experience during the stage 2 activity and interview completed with their partner, responses added important context to the stage 1 findings.

Eleven of 19 parents indicated that after "today's visit" (i.e. participating) they considered sexuality a "significant part" of early childhood growth (*scale 1-5: M = 4.26,*

SD = .991). Five parents reported that they would be "extremely comfortable" talking to their child(ren) about their sexuality, while another 11 parents felt "moderately comfortable" (*scale 1-7: M = 6.05, SD = .78).* An item key to assessing the possible impact of the study, asked participants how likely it was that they discuss with their partner, their child's sexuality: 10 of 18 responding parents reported it was "extremely likely" they would speak to their partner/spouse about their child's sexuality after their participation visit, while an additional 7 were "moderately likely" (*scale 1-7: M = 6.44, SD = .78*). Tables 4, 5, and 6 present additional descriptive statistics of debriefing items.

Participants were also asked to reflect on their visit, including both interviews and activity, and consider whether they learned anything from the research team, their partner, or about themselves. Participants offered a myriad of responses describing what they learned during their visit (see Tables 7 and 8). Eight mothers and 3 fathers reported learning something from the research team. The research team selected two mothers' responses as salient and representative of broader study findings: "I learned a new definition of sexuality. I also was able to see how many stages my children will experience even before adolescence," and "That sexuality begins quite early in life- need to start thinking about it now and how we will guide our daughter." One father's response was also selected as salient, "Sexuality is deeper than I has thought previously. It encompassed so much more than I expected and it was an enlightening experience to participate in this research."

Of eight couples only two mothers, and two fathers, learned something from their partner. One mother learned, "We're even more on the same page than I thought." One father learned, "We hadn't really talked about how we were going to approach sexuality

with our child. I learned that we are pretty aligned in how we individually thought we'd approach it." It must be noted that this mother and father were not opposite parts of the same parent-dyad – and yet, their statements reflected one of the themes found across stage 1 interviews. Moreover, this mother and father only had the opportunity to learn this as part of their participation in the stage-2 activity and interview, when parents encountered their partner, and their partner's knowledge and attitudes about sexuality, face-to-face.

Six mothers and two fathers reported learning something new about themselves. Two mothers' responses were selected as notable, most likely gleaned during the stage 1 interview, "I still struggle with pronouns and trying to think of sexuality as more than gender/sexual identification." And "My initial definition of sexuality was based on attraction and body parts." While only two fathers disclosed learning something about themselves, one father shared, "I view myself as pretty liberal and open-minded about sexuality. Despite this, I was confronted today with how much I'd rather put off the idea of my child being a sexual being. I'd rather not "deal with it" yet. This kind of surprised me."

Milestone Activity

The milestone activity asked participants to match 22 milestones of sexuality development with the age category when the milestone occurs (at its earliest). Eight dyads and four individual parents (n = 20) completed the activity (12 total activities).

Table 9 presents frequency of responses across all activities for round 1, changes made in round 2, and a statement on the direction of expectations for (modal) incorrect responses. For example, a majority of parents incorrectly matched the milestone,

"become aware of gender body differences" to infancy and toddlerhood; however, children experience this milestone during preschool ages, later than parents expected.

The activity was scored in two ways: 1) "Total score," where each correctly matched milestone earned 1 point and incorrectly matched milestones earned 0 points, and 2) "Average score," where the points earned in the total score were divided by the total number of possible points (22). The round 1 mean total score (out of 22) was 9.42 (*SD = 2.11*), and mean average score of .43 (*SD = .10*). Only one couple elected to change answers during round 2, and had no change on the number of correctly identified milestones.

Milestones were analyzed individually to ascertain patterns across all activities (i.e. participants) (see Table 10). Results showed that across all participants, only one milestone was matched correctly: toilet training occurs during infancy and toddlerhood. Parents, on average, selected the correct category for several milestones (listed by age category): during infancy and toddlerhood, children explore body parts and genitals, begin to develop attitudes about their bodies, can experience genital pleasure, learn expected behaviors by gender, and recognize language specific to each gender; during preschool ages, children begin to formalize a self-identity as male or female and are curious about where babies (often themselves) come from (distinctly different from childbirth, how babies are born). Only one milestone received no correct responses: during elementary school ages children form strong same-sex friendships. Although only one milestone correctly occurs during (pre-) adolescence, having a boyfriend or girlfriend and go on actual dates, parents incorrectly matched other milestones to this developmental period, most notably: masturbate and engage in sex play.

Qualitative analyses of note-taker documents during the activity also showed high levels of discussion for the milestones: experience genital pleasure, masturbate, engage in sex play, and choosing gender-stereotypical activities (often discussed as toys). Note-taker documents also revealed parents had difficulty distinguishing between curiosity about where children come from and curiosity about childbirth.

DISCUSSION

The purpose of this study was to address gaps in existing research, namely how contemporary parents define sexuality and whether parents recognize sexuality development during early childhood. Thematic analyses of interview data provided by 20 parents with children between the ages 12-47 months, found four themes: 1) Parents rely on their own experiences to form interpretations of their child's behaviors, 2) Parents observed, but are uncertain about sexuality development in early childhood, 3) Communication about sexuality is limited or implied, and 4) Sexuality does not yet apply to their child.

Initially I feared that the study purpose, title, and child-ages, could make it difficult to find a sample, or produce a sample of parents already comfortable and knowledgeable about sexuality development. This was not the case, however, parents did not report any consistent or significant ease with sexuality, rather disclosed during their participation being hesitant but willing to participate. Two couples sampled from the Priscilla Pond Flawn Child and Family Laboratory, shared that they were initially hesitant to complete the screening form because they assumed, from the study title, that they would be asked about their own sexual behaviors during their child's early years. These couples completed the screening only after asking PPFCFL administration if their

assumptions were correct. Several parents shared that they participated in the hope that they would learn about sexuality development; few hoped to gain some understanding of their child's behaviors. From these points and resulting themes, I was able to find parent participants willing to risk their own comfort in exchange for knowledge.

Additionally, many research assistants described parents' excitement and interest during the study's final procedures when resource books were given. Parents received four books as incentive to participate: 1) *It's Not the Stork!: A Book About Girls, Boys, Babies, Bodies, Families, and Friends* by Robie H. Harris, 2) *What's the Big Secret?: Talking about Sex with Girls and Boys* by Laurie Krasny Brown, Ed.D, 3) *Healthy Sexuality Development: A Guide for Early Childhood Educators and Families* by Kent Chrisman and Donna Couchenour, and 4) *From Diapers to Dating: A Parent's Guide to Raising Sexually Healthy Children- From Infancy to Middle School* by Debra Haffner, M.P.H.. I also experience parent's enthusiasm and appreciation for the resource books. Parents mentioned being excited to read the new materials and share the child-oriented books with their children.

The themes found illustrate that parents need, and would appreciate, information about children's sexuality development. Parents are willing to guide their children's sexuality development but do not feel equipped to do so; even parents who were trying to proactively teach positive sexuality were not better informed than other parents. The gap in sexuality development research may be more detrimental than I expected at the study's onset, because the lack of literature contributes to a lack of resources for parents, and professionals such as pediatricians. It also keeps sexuality education organizations that have resources, such as the NAEYC, off parent's list of resources.

The Sexuality Information and Education Council of the United States, SIECUS, is one of the chief organizations advocating for healthy sexuality for all – yet, the position statements reflect only a minimal recognition that sexuality has a place in early childhood (SIECUS, 2017). In a review of SIECUS's many position statements, sections can be found for adolescent sexual health, sexuality education, and parents as sexuality educators. But no position statement exists for sexuality development or childhood sexuality, only one line, "sexuality education is a lifelong process that begins at birth" gives attention to sexuality development during childhood. Study findings suggest attention to this area would benefit parents and children long-term.

The themes that emerged, parents' lowly 50% accuracy matching sexuality milestones to ages, and what parents learned from mere participation (self-reported in the debriefing survey), underscore the need to evolve past the root word, sex, and accept that sexuality is broader than its root, and universal. This however, is not a new position; Geasler, Dannison, and Edlund (1995) in a similar study, examined parental concerns for the sexuality education of young children, and found remarkably similar results. Twenty-two years ago, Geasler, Dannison and Edlund (1995) interviewed 28 mothers and fathers in the United States' Midwest. Parents were married, had children ranging from 10 weeks to 24 years old, and all but one parent were Caucasian. Through several focus groups, they found five areas of parental concern: timing and content (i.e. providing age appropriate information), others' children sexuality education, gender role expectations and improving upon their own parents' efforts.

In 22 years, little improved. The current study finds that two decades later, parents today are still conflicted about timing and content, gender, and unsure how to surpass

their own parents. As for timing and content, study findings suggest that childhood, specifically early childhood, as a developmental period may face the greater barrier of being entirely unrecognized as a time for sexuality development. Parents participated in the study with a hope of receiving information, but with trepidation as to how the study's purpose truly applied to their young child. Parents provide a wealth of examples of children's sexuality behaviors but did so clouded with uncertainty, either of a behavior or meaning, and at times unsure it was related to sexuality at all. Their uncertainty reflected findings that personal perspective and familiarity with sexuality markedly contributes to adult's interpretations of children's sexuality behaviors as typical or symptomatic of abuse (K. A. Martin, 2014). A positive sign that parents do receive some information about children's sexuality can be seen in the described infantile erections and genital exploration that most parents knew to expect (albeit the early timing and frequency were still noted as surprising), though no other research has not examined the rate at which parents are or are not informed about infantile erections.

Study findings suggest more attention is necessary to the professional stakeholders of information: pediatricians. Parents conveyed that if sexuality was important to early childhood, they would expect and look to their pediatrician for information. The American Academy of Pediatrics, AAP, recommends that pediatricians address sexuality development and education with parents and children early, at every opportunity (Breuner & Mattson, 2016). The AAP's recommendation is evidence-based: research shows that early, frequent, open, comfortable communication between parent and children about sexuality improves children's health behaviors and outcomes where sexuality (or sex) is involved (Breuner & Mattson, 206; Kappelman, 1989). No evidence

to date would support that any age is too early, for age-appropriate information. On the contrary, Schalet (2011) amply supports that considering sexuality as beginning at birth, and promoting a broad understanding of sexuality as positive, healthy, and lifelong, could ease the discomfort parents and children feel about sexuality when behaviors and more intimate aspects surface.

Still, children's development remains parents' responsibility and joy. I did not find parents hesitant to share their own experiences with sexuality, nor what they had experienced of their child's sexuality. Parents' hesitation surrounded specific language, how they phrased responses or struggled to speak certain words and behaviors. Parents' stuttering and whispering of the words "genital pleasure" as it applied to their children did not suggest parents' refusal to acknowledge that their child experienced genital pleasure, rather conveyed an internal struggle to comfortably speak the juxtaposed terms. It is important, as suggested by previous research, that parents begin to build confidence around sexuality words and topics, because parental confidence most significantly predicted if, and how, parents provided sexuality information (Morawska, Walsh, Grabski, & Fletcher, 2015). Parents' accounts of their own parents' trepidations and anxieties, suggests confidence may be of even greater significance, if learned from previous generations. Going forward, research must consider the implicit transmission of these anxieties and discomfort, even by the most "liberal" of parents (as one shared) for its role in limiting how much sexuality development socialization can be fairly and realistically placed upon the general parent population.

Limitations

The present study had several limitations, including: sample size and composition, design limitations, and child omission.

Although the study sample was specifically constructed as a convenience sample drawn from early childhood programs affiliated with the university, this design limits study findings to a particular parent population. The study sample was more homogenous than diverse: all couples were heterosexual, married, and had children within the marriage. Only three couples noted a language other than English. Although all participants were offered parking validation, all-but-one participants declined parking validation and used personal university parking permits. Six of the 12 interviews were conducted during a typical work-hours because participants were already on campus and available. The sample did not draw participants from the broader community, of diverse backgrounds and socioeconomic status, or with specific diversity goals. Future work should sample across all parent populations, ethnic and racial groups, and socioeconomic status.

Although the study's design addressed the study purpose, several limitations were found during thematic analyses. Participants' responses during individual interviews varied greatly by participant personality, such that few parents gave brief responses, and did not elaborate even when probed. One father chose to complete the milestone activity in silence, even after the facilitator reminded him twice to think aloud for audio recording. One mother also reported feeling uncomfortable during the individual interview because two research assistants were present (one facilitator, and one note-taker). Future work should consider interviewing participants in groups – where

participants can respond to each other, elaborate upon other parent's responses, and feel less the center of attention – and with a variety of grouping criteria (e.g. parent sex, child age, child gender, parent-child same-sex, parent-child opposite-sex).

The ability to assess parents' knowledge as measured in the milestone activity was also limited by the study design. The current study cannot conclusively present individual parents' knowledge because parents completed the activity together. Future work should capture what parents know individually, as well as the conclusions parents reach together.

The study design was also limited as a single visit, and was not able to follow-up with parents after participation due to time constrictions. A follow-up survey was suggested as post-dissertation work, unfortunately I did not phrase the question with sufficient time between participation visits and when I was realistically then able to contact parents. Since I could not contact parents with a consistent span of time between visit and follow-up, I did not complete a follow up survey. Therefore, I cannot determine if parents who reported extremely or moderately likely to have a conversation with their partner about sexuality, actually did so in the days or weeks following the interview. Other questions also remain unanswered, including, how parents interacted with the resource books (e.g. *It's not the Stork!)*, whether parents found them useful, felt knowledgeable enough to use them, or continued learning about sexuality development. Future work should strive to include longitudinal measures where possible, particularly to capture changes in parents' attitudes and understanding of sexuality development.

This study did not attempt to collect data or include the child as a participant. It is possible that parents who participated only did so because the child was not included.

This conclusion however cannot be supported, nor denied by available data. This study was also unable to collect parent-child interactions, parent-child-parent interactions, or child responses.

Strengths

Strengths of the current study included, its use of technology, instrument design, and its educational impact.

The milestone activity was specifically designed as a drag-and-drop iPad activity, so that it reflect a game or app more than a quiz or test. The activity was programmed so that it was easy to complete, and encouraged participant discussion. Participants did not see the entire list of milestones at once, rather had to scroll through milestones as if on a rolodex. The design was specifically chosen by the research team because it felt less overwhelming than presenting all 22 milestones at once, especially because participants were not aware of any specific details of the activity until it was presented. Participants could only see few milestones at once, spinning through the milestones also added excitement over a simple list, and forced participants to read milestones multiple times, stop on a milestone-return to a milestone-and match milestones in any order. Overall, the design hoped to elicit more interaction and discussion between parents than a simple parent presentation. Indeed several couples explored the activity and discussed a strategy before beginning to match milestones to age categories. Participants commented that the activity looked “professional,” and felt comfortable on a familiar device.

During the individual interview parents learned that the American Academy of Pediatrics recommends pediatricians talk to parents about their children’s sexuality. As parents responded in this portion of interviews, their responses became longer and

showed a new level of interest, even asking themselves rhetorical questions. Across interviews it seemed this was the point at which parents began to think more inquisitively about their own lack of knowledge and asserted wanting more information; “no, no, he’s never mentioned anything – and, yea, no, I guess he should have, or he hasn’t because I haven’t asked. I think next time, next appointment, I’ll ask, and ask why, what we should really be learning at this time to help our daughter.”

CONCLUSIONS

Children’s sexuality development is not invisible to parents, but it is poorly recognized. Parents knew that their child would eventually develop sexuality, but expected “sexuality” to be what they experience as adults. This study found parents are willing to discuss sexuality, willing to learn about sexuality development, and most importantly, eager to help their children develop a healthy, positive, sexuality. Most importantly, this study offered parents a new definition of sexuality, and parents found, on their own, the connections between their child’s behaviors and their child’s sexuality development.

Table 1
Summary of Participating Parents and Their Children By Pseudonyms

						Target Child			Second Child
PID	Last Name, First	Sex / Parent Role	Age (Yrs.)	Yrs. Marr.	Children	Sex	Age (mo.)	Category	Sex, Age mo.
S1	Jones, Rita	Female/ Mother	26	2.0	2	Male	31	3	Female, 7 mo.
G1									
S2	Johnson, Jessica	Female/ Mother	42	12.0	1	Female	47	4	
G2	Johnson, Nick	Male / Father	41						
S3	Schwartz, James	Male/ Father	34	2.0	1	Female	23	2	
G3	Schwartz, Amy	Female/ Mother	-						
S4				8.0	1	Male	28	3	
G4	Harris, Martin	Male/ Father	37						
S5	Scott, Sally	Female/ Mother	37	10.0	1	Male	42	4	
G5	Scott, Nelson	Male/ Father	36						
S6	Wallis, Jerry	Male/ Father	35	11.0	1	Female	44	4	
G6	Wallis, Kara	Female/ Mother	-						
S7	Davidson, Susan	Female/ Mother	40	10.0	1	Male	18	1	
G7	Davidson, Henry	Male/ Father	-						
S8	Miles, Hannah	Female/ Mother	40	6.5	1	Female	29	3	
S8									
S9	Brewer, Janet	Female/ Mother	37	4.5	2	Female	32	3	Male, 10 mo.
G9	Brewer, Jeffrey	Male/ Father	32	4.0					
G10	Howell, Connor	Male/ Father	33	4	1	Female	29	3	
S10									
S11	Smith, Jenna	Female/ Mother	32	4	2	Female	34	2	Male, 6 mo.
G11	Smith, Neil	Male/ Father	-						
S12	Wheeler, Katherine	Female/ Mother	32	6	1	Male	39	4	
G12	Wheeler, Chris	Male/ Father	31	8					

Note: Table 1 is a summary of participants using pseudonyms to preserve confidentiality and anonymity. Abbreviations: PID = Participant ID, Yrs. Marr. = Years married (similar values are not duplicated, only if values reported differed between spouses, is each parent's report is included), Children = Number of children, Category = Child's age-category (1 = 12-18mo., 2 = 19-24mo., 3 = 25-36mo., 4 = 37-47mo.) Age for parents is given in years, for children given in months; a dash indicates age was not provided. Couples are denoted by their Rows filled as gray (omitted) denote a parenting-partner who did not participate; the parent who did participate, did so individually.

Table 2

Descriptive Statistics of Participating Parents

	Overall Sample			Mothers			Fathers			Paired Sample T-test	
Variable	n	Range	Mean (SD)	n	Range/ scale	Mean (SD)	n	Range/ scale	Mean (SD)	Statistic	p value
Participant Age	16	26 - 42	35.31 (4.29)	9	26 – 42	35.89 (5.04)	7	31 – 41	34.57 (3.31)	1.4	.22
Year Married	17	2.0 - 12.0	7.29 (3.42)	9	2 – 12	7.00 (3.27)	8	2 – 12	7.63 (3.78)		
Years Cohabiting	17	3.0 - 12.0	10.06 (4.07)	9	3 – 17	9.44 (4.10)	8	4 – 17	10.75 (4.20)		
Discussed Having Children	17	1 - 5	4.53 (.80)	9	4 – 5/ 1 – 5	4.78 (.44)	8	2 – 5/ 1 - 5	4.25 (1.04)	0.89	0.42
Considered the Changes of Parenthood	17	1 - 5	4.18 (.73)	9	4 – 5/ 1 – 5	4.22 (.44)	8	2 – 5/ 1 - 5	4.13 (.99)	0.80	0.47
Wanted Children	17	1 - 7	6.74 (1.07)	9	4 – 7/ 1 – 7	6.44 (1.13)	8	4 – 7/ 1 - 7	6.50 (1.07)	1.35	0.24
Happy Feelings about Having First Child	17	1 - 7	6.65 (.79)	9	5 – 7/ 1 – 7	6.56 (.88)	8	5 – 7/ 1 - 7	6.75 (.71)	1.0	0.36

Note: N = 17, unless noted. Means presented for mothers and fathers are across the participating sample. Paired t tests were conducted on couples only, where both partners provided information (6 couples). Discussed children = "Prior to having children, did you and your spouse discuss having children?," Decided to have children = "For us, the decision to have children was made after careful consideration of the changes that come with parenthood," Wanted children = "When you found out you were pregnant with your FIRST child, how much did you want to have a baby with your spouse?," Feelings about First Child = "When you learned you were pregnant with your FIRST child, how happy did you feel?

*p < .05, ** p< .01.

Table 3

Parenting and Children's Sexuality Development Themes

Theme 1: Parents rely on their own experiences to form interpretations of their child's behaviors	Freq. 20/ 20	
Subthemes	Meaning Units	Frequency
1. Parents were able to brainstorm how sexuality could apply to childhood.	Sexuality could be part of the lifespan, all ages, ages other than adulthood; Aspects could begin early, in toddlerhood, in childhood; Young children could see and experience things even if they do not understand.	12/ 20
2. Parents' experiences learning about sexuality were predominantly negative.	Information was limited, poor, inaccurate, confusing; Emotions were confusing; Impact lingers; Trauma/abuse	16/ 20

Theme 2: Parents observe, but are uncertain, about sexuality development in early childhood.	Freq. 20/ 20	
Subthemes	Meaning Units	Frequency
1. Parents shared observations as simply behavior, but not as behavior related to sexuality development (did not recognize it as such at first).	First response is no behaviors but second response or elaboration illustrates behavior; Story of question or behavior with other non-sexuality justification given	17/ 20
2. Parents observed behaviors they did not understand but did consider, feel might be related to sexuality.	Behaviors were described as surprising, not expected, uncertain; Parents were unsure of the reason for the behavior, what the behavior was exactly, unsure about the timing or duration, unsure if normal. Spoke with verbal or explicit hesitation, uncertainty or emphasis.	15/ 20

Theme 3: Communication about sexuality is limited or implied.	Freq. 20/ 20	
Subthemes	Meaning Units	Frequency
1. Parents talked about sexuality, while simultaneously not discussing sexuality at length.	Conversations were bits and pieces, happened naturally, occurred before children, heavily relied on general communication and knowledge of each other's overall view of sexuality.	14/ 20

2. Parents communicate to each other their individual parent-child experiences, and expect to be made aware of most individual parent-child experiences.	Parent's confidence at speaking for each other and as a couple, regardless of partner's absence; Parents providing the same example from their own perspective.	20/ 20

Theme 4: Sexuality does not yet apply to their child		Freq. 16/ 20
Subthemes	Meaning Units	Frequency
1. The child is too young to understand	Children's behaviors presented as unintentional, passive, curious without awareness; explicit and implied statements such as, "too young" and "cannot understand cognitively;" Child will eventually learn.	17/ 20
2. The child does not have the language capacity necessary for sexuality information, namely anatomically correct words	Words are hard for the child to pronounce; the child cannot distinguish between accurate words and euphemisms because of age; Since the child cannot understand or repeat the word, it is not important to say the word, it is instead easier to use euphemisms the child can pronounce.	14/ 20

Note: Table 3 shows the resulting themes, subthemes, meaning units, and frequencies, from Stage 1 Individual Interview data. Meaning units were collapsed codes and categories identified during analyses. Meaning units build to subthemes, and subthemes build to themes. Frequencies in subthemes do not necessarily contribute equally to the theme frequency. The theme frequency may include participants whose data fits the broader theme, but not a subtheme. The majority of parents elaborated and shared openly, but three well consistently succinct, or vague in responses.

Table 4

Sexuality As a Part of Early Childhood

After today's visit would you consider "sexuality" (as we defined it) to be part of early childhood growth?	Overall Sample		Mothers (Female)		Fathers (Male)	
	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)
	19	4.26 (.991)	10	4.4 (0.966)	9	4.11 (1.054)
Response options	Frequency	Percent	Frequency	Percent	Frequency	Percent
A Small Part	1	5.3	0		1	11.1
A Moderate Part	4	21.1	3	30.0	1	11.1
A Large Part	3	15.8	7	70.0	1	33.3
A Significant Part	11	57.9	0		4	44.4
Total	19	100.0	10	100.0	9	100.0
Missing	1		1		0	
Total	20		11		9	

Note: Table 4 shows descriptive statistics and frequencies for the overall sample, and by participant gender, for the item: After today's visit would you consider "sexuality" (as we defined it) to be part of early childhood growth? Participants answered this item during stage 3, in the debriefing survey.

Table 5

Participants' Comfort Talking to Their Children About Sexuality

How comfortable are you (or would you be) talking to your children about their sexuality (this can include body parts, puberty-topics, etc.)?	Overall Sample		Mothers (Female)		Fathers (Male)	
	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)
	19	6.05 (.780)	10	6.10 (0.994)	9	6.00 (.500)
Response options	Frequency	Percent	Frequency	Percent	Frequency	Percent
Neither uncomfortable nor comfortable	1	5.3	1	10.0	0	
Slightly uncomfortable	2	10.5	1	10.0	1	11.1
Moderately comfortable	11	57.9	4	40.0	7	77.8
Extremely comfortable	5	26.3	4	40.0	1	11.1
Total	19	100.0	10	100.0	9	100.0
Missing	1		1		0	
Total	20		11		9	

Note: Table 5 shows descriptive statistics and frequencies for the overall sample, and by participant gender, for the item: How comfortable are you (or would you be) talking to your children about their sexuality (this can include body parts, puberty-topics, etc.)? Participants answered this item during stage 3, in the debriefing survey.

Table 6

Descriptive Statistics for Talk Sexuality In The Future

How likely do you think it is that you and your partner/spouse will talk about your child's (children's) sexuality development after today's visit?	Overall Sample		Mothers (Female)		Fathers (Male)	
	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)
	18	6.44 (.784)	10	6.70 (0.483)	8	6.13 (.991)
Response options	Frequency	Percent	Frequency	Percent	Frequency	Percent
Neither unlikely nor likely	1	5.6	1	12.5	0	
Moderately likely	7	38.9	4	50.0	3	30.0
Extremely likely	10	55.6	3	37.5	7	70.0
Total	18	100.0	8	100.0	10	100.0
Missing	2		1		1	
Total	20		9		11	

Note: Table 6 shows descriptive statistics and frequencies for the overall sample, and by participant gender, for the item: How likely do you think it is that you and your partner/spouse will talk about your child's (children's) sexuality development after today's visit? Participants answered this item during stage 3, in the debriefing survey.

Table 7

Participant responses given in the debriefing survey, Mothers

Mother's self-typed responses to each item	Mothers Responses		
	No	Yes	Unsure
During today's participation visit, did you learn anything new from the research team? (n=10)	2 (18.2%)	8 (72.7%)	
"Definition of sexuality, examples of sexuality development in infancy/toddlerhood"			
"I learned a new definition of sexuality. I also was able to see how many stages my children will experience even before adolescence."			
"Sexuality is a topic we should start thinking about more as it relates to our kids"			
"That children's sexuality may emerge very early"			
"That sexuality begins quite early in life- need to start thinking about it now and how we will guide our daughter."			
"The definition of "sex play""			
"The WHO definition for sexuality was surprisingly updated and very wide."			
During today's participation visit, did you learn anything new about your partner/spouse? (n=8)	6 (54.5%)	2 (18.2%)	
"That he doesn't get asked or think as deeply about the questions from our child"			
"We're even more on the same page than I thought. Also, he can really ramble about this subject."			
During today's participation visit, did you learn anything new about yourself? (n=10)	3 (27.3%)	6 (54.5%)	1 (9.1%)
"I have a lot of information that I need to get ready to address with my toddler."			
"I learned that I feel more comfortable discussing and elaborating on topics when I am not the only person in the room talking. It is difficult to feel at ease when it is just me and an observer and a facilitator. I felt very conscientious about how I sounded."			
"I should be doing more work on this and helping this discussion with my kid"			
"I still struggle with pronouns and trying to think of sexuality as more than gender/sexual identification."			
"My initial definition of sexuality was based on attraction and body parts."			

Note: Table 7 shows Mother's self-typed responses, provided as elaborations to three items that assessed if they learned anything during the participation visit. Participants completed this item during the stage 3, debriefing survey. Participants who reported learning something (yes or unsure) were asked to elaborate.

Table 8

Participant responses given in the debriefing survey, Fathers

	Father Responses		
Father's self-typed responses	No	Yes	Unsure
During today's participation visit, did you learn anything new from the research team? (n=8)	4 (50%)	3 (37.5%)	1 (12.5%)
"WHO definition of sexuality"			
"Sexuality is deeper than I has thought previously. It encompassed so much more than I expected and it was an enlightening experience to participate in this research."			
"The team was able to provide me a very elaborate definition of sexuality."			
"The broad definition of sexuality, which seems correct, but not scientific enough. Surely all those categories don't weight similarly."			
During today's participation visit, did you learn anything new about your partner/spouse? (n=8)	6 (75%)	2 (25%)	
"That she learned things later in life that she would have appreciated learning in public school sex education"			
"We hadn't really talked about how we were going to approach sexuality with our child. I learned that we are pretty aligned in how we individually thought we'd approach it."			
During today's participation visit, did you learn anything new about yourself? (n=8)	6 (75%)	2 (25%)	
"My childhood experiences helped shape my views on sexuality that I will consider more closely going forward as I raise my own child."			
"I view myself as pretty liberal and open-minded about sexuality. Despite this, I was confronted today with how much I'd rather put off the idea of my child being a sexual being. I'd rather not "deal with it" yet. This kind of surprised me."			

Note: Table 8shows Fathers' self-typed responses, provided as elaborations to three items that assessed if they learned anything during the participation visit. Participants completed this item during the stage 3, debriefing survey. Participants who reported learning something (yes or unsure) were asked to elaborate.

Table 9

Milestone Activity Descriptive Statistics

	Range	Mean (SD)	Minimum	Maximum	Variance
Round 1 Total Score	0 - 22	9.417 (2.109)	6.000	13.000	4.447
Round 1 Mean Score	0 - 1.0	0.428 (.096)	.273	.591	.009
Round 2 Total Score	0 - 22	9.417 (2.109)	6.000	13.000	4.447
Round 2 Mean Score	0 - 1.0	0.428 (.096)	.273	.591	.009

Note: Table 9 shows scores and averages for the milestone activity. Total scores were calculated by summing the number of correct responses (1 point per correct response). Mean scores were calculated from a possible perfect score 1.0.

Table 10

Milestone Activity Frequency of responses per each age category for each milestone

Milestones	Age Categories, Round 1				Changes in Round 2			If Incorrect, Milestone occurs
	Infancy & Toddlerhood	Preschool Age	Elementary School Age	Pre-adolescence & Adolescence	Cat.2	Cat. 3	Cat 4.	
Explore body parts and genitals (n=12)	11 (91.7%) (Correct)	1 (8.3%)						Earlier than expected
Develop attitudes about own body (n=12)	5 (41.7%) (Correct)	5 (41.7%)	2 (16.7%)					Earlier than expected
Experience genital pleasure (n=12)	5 (41.7%) (Correct)	4 (33.3%)	2 (16.7%)	1 (8.3%)	5 (41.7)	1 (8.3)		Earlier than expected
Become aware of gender and body differences (n=12)	7 (58.3%)	3 (25.0%) (Correct)	1 (8.3%)	1 (8.3%)				Later than expected
Masturbate (n=12)	1 (8.3%)	2 (8.3%) (Correct)	5 (8.3%)	4 (8.3%)				Earlier than expected
Engage in sex play (n=12)		4 (33.3%) (Correct)	2 (16.7%)	6 (50.0%)		3 (25.0)	5 (41.7)	Earlier than expected
Form same-sex friendships (n=12)	9 (75.0%)	3 (25.0%)	(Correct)					Later than expected
Formalize self-identity as male or female (n=12)	4 (33.3%)	6 (50.0%) (Correct)	1 (8.3%)	1 (8.3%)				Later than expected
Learn expected behaviors by gender (n=12)	7 (58.3%) (Correct)	4 (33.3%)	1 (8.3%)					Earlier than expected
Recognize language specific to each gender (n=12)	8 (66.7%) (Correct)	3 (25.0%)	1 (8.3%)					Earlier than expected

Milestone Activity Frequency of responses per each age category for each milestone

Milestones	Age Categories, Round 1				Changes in Round 2			If Incorrect, Milestone occurs
	Infancy & Toddlerhood	Preschool Age	Elementary School Age	Pre-adolescence & Adolescence	Cat.2	Cat. 3	Cat 4.	
Enjoy bathroom humor (n=12)	8 (66.7%)	4 (33.3%) (Correct)						Later than expected
Repeat curse words (n=12)	8 (66.7%)	3 (25.0%) (Correct)	1 (8.3%)					Later than expected
Interested in stereotyped gender roles (n=12)	1 (8.3%)	8 (66.7%)	3 (25.0%) (Correct)					Later than expected
Tease and call names (n=12)	1 (8.3%)	6 (50.0%)	5 (41.7%)(Correct)					Later than expected
Choose gender-stereotypical activities (n=12)	6 (50.0%)	4 (33.3%)	2 (16.7%) (Correct)					Later than expected
Curiosity towards pregnancy/ childbirth (n=12)	6 (50.0%)	4 (33.3%)	1 (8.3%) (Correct)	1 (8.3%)				Later than expected
Curiosity about where babies come from (n=12)	4 (33.3%)	7 (58.3%) (Correct)	1 (8.3%)					Later than expected
Toilet training (n=12)	12 (100.0%) (Correct)							
Learn about privacy (n=12)	8 (66.7%)	3 (25.0%) (Correct)	1 (8.3%)					Later than expected
Learn about respect for others' bodies (n=12)	9 (75.0%)	3 (25.0%) (Correct)						Later than expected

Milestone Activity Frequency of responses per each age category for each milestone

Milestones	Age Categories, Round 1				Changes in Round 2			If Incorrect, Milestone occurs
	Infancy & Toddlerhood	Preschool Age	Elementary School Age	Pre-adolescence & Adolescence	Cat.2	Cat. 3	Cat 4.	
Have a girlfriend/boyfriend regardless of actual dates (n=12)		3 (25.0%)	8 (66.7%) (Correct)	1 (8.3%)				Later than expected
Have a girlfriend/boyfriend and go out on dates (n=12)			1 (8.3%)	11 (91.7%) (Correct)				Later than expected

Note: N = 12 activities. Table 10 shows results for the Milestone Activity participants completed in stage 2. Participants were asked to match each milestone to the age category when it occurs. In round 1, participants were not given any information regarding the milestones or the age categories. In round 2, participants were allowed to ask questions and receive definitions or clarification, and change their answers if they wished. The direction of inaccuracy noted in the last column compares the modal incorrect age category to the correct age category. Cat. 1=Category 1, Infancy & Toddlerhood; Cat. 2 = Category 2, Preschool Age; Cat.3 = Category 3, Elementary School Age; Cat. 4 = Category 4, Pre-adolescence & Adolescence.

Chapter 4: Mothers' Recognition of Adolescents' Pubertal Development and Mother-Child Communication

OVERVIEW

Adolescence is a period of rapid, fluctuating physical, socioemotional, and cognitive growth that can stress, even destabilize the new adolescent and the surrounding family (Arnett, 1999); adolescents, however and not surrounding, immediate family members, have received the bulk of attention in pubertal development research. Mothers are likely to experience changes with their child, or change themselves by the child's pubertal development. The present study sought mothers' experiences of puberty – what they observe and how they react to their child's puberty – to contribute empirical evidence to the proposed conceptual framework. Specifically, this study examined whether adolescents' physical growth made mothers more inclined toward puberty communication, and mothers more likely to initiate communication. This study also examined if mothers' perception of how much their child knows about puberty influenced their inclination toward puberty-communication, and prompted them to initiate conversations about puberty. Although the sample is culturally distinct, mothers' experiences may still apply to the conceptual framework.

BACKGROUND

Children who do not receive information about puberty before its onset may feel confused and uncertain about their changing body (Romo, Mireles-Rios, & Lopez-Tello). Assuming mothers have cared for their child's physical wellbeing since birth, attending to fevers, doctor appointments, and many other needs, it follows that mothers would also care for their child's physical wellbeing through puberty. Moreover, mothers could provide universal information about what puberty is and what changes the child will

experience, while also sharing her personal experience, heightening the bond and trust between mother and child.

Extant research has largely focused on adolescents' pubertal experiences (i.e. how physical changes affect them) to understand how development during this time impacts family functioning, relationships with peers and partners, and other constructs such as identity, self esteem, academic achievement, and mental health (Cance, Ennett, Morgan-Lopez, Foshee, & Talley, 2013; Carter, Caldwell, Matusko, Antonucci, & Jackson, 2011; Fortenberry, 2013; Foster, Hagan, & Brooks-Gunn, 2004; Herman-Giddens, 2006; Thelus Jean, Bondy, Wilkinson, & Forman, 2009; R. M. B. White, Deardorff, & Gonzales, 2012). This study is the first to examine the pubertal experience for Mexican American mothers, specifically their rating of pubertal development and child's puberty knowledge.

Considerations For A Mexican American Sample

Although the role mothers play in forming their child's sexual behaviors has been examined in previous work (Askelson, Campo, & Smith, 2012; Cox, Scharer, Baliko, & Clark, 2010; Fox & Inazu, 1980; Hutchinson, Jemmott Iii, Sweet Jemmott, Braverman, & Fong, 2003; Pluhar, DiIorio, & McCarty, 2008), fewer studies have sampled Mexican American mothers about their experience during their child's puberty. The broader study sampled Mexican American mothers for several reasons, including: 1) population growth, 2) adolescent-pregnancy, and 3) limitations of existing literature. In 2013, Mexicans (and Mexican-Americans) accounted for nearly 35% (34.6 million) of the U.S. population and two-thirds (64.1%) of the U.S. Hispanic population (López, 2015). Population projects expect 114% growth in the Hispanic population between 2014 and 2060 (Colby & Ortman). This growth in population signals the need for more, and nuanced knowledge of

what Mexican American families experience during critical developmental periods, such as the pubertal period.

The physiological changes that occur as part of puberty mature a child's body toward reproductive capacity. In 2014, the rate of teen pregnancy (measured between ages 15-19) for Hispanic adolescents was highest compared to other ethnic/racial groups, with a rate of 38 births per 1,000 females compared to 34.9/1,000 for African American females, and 17.3/1,000 for white females (Hamilton, Martin, Osterman, Curtin, & Matthews, 2015). Extrapolating from the population growth rate and the teen-pregnancy rate, Mexican-American-mothers as a group could grow at a faster rate. While this is strictly conjecture, the presumption is generally supported by the axiom that present-day, adolescent females are future mothers. Although the present work is concerned with mothers not adolescents, it is important to consider that pregnancy typically begins the transition to motherhood, and teenage-pregnancy can result in an earlier, and more complex transition to parenthood. Though the present study is not interested in pregnancy, it is broadly aimed at parent-child relationships and socialization; by examining current mothers and their practices, we may find information applicable to future mothers, and fill-in information necessary for the conceptual framework.

Furthermore, inconsistent findings in existing literature suggest that parent-child communication and education regarding sex and sexuality for Hispanic adolescents may be more complex than generally assumed, and influenced by culture and parenting practices (Guilamo-Ramos et al., 2006b). In general, greater frequency and quality of parent-child communication regarding sex promote healthy sexual behaviors (i.e. communication about sex is negatively associated with sexual debut and positively

associated with condom use) (Margaretha de Looze, Norman A. Constantine, Petra Jerman, Evelien Vermeulen-Smit, & Tom ter Bogt, 2015; Guilamo-Ramos et al., 2006b). Empirical work has also fallen short of distinguishing between communication related to sex (or sexual behaviors), and communication related to puberty itself, even through qualitative methodology (Guilamo-Ramos et al., 2006a). Communication for each topic should be distinct, just as sex and puberty are considered two distinct concepts and experiences.

Socialization Practices In Latino Families

Although, the current may did not examine culturally specific socialization practices within the family, aspects of mother-child communication examined, can suggest family socialization practices. Socialization practices are distinct from family communication in that communication that occurs specific to socialization practices, specifically conveys parents' ideals, values, attitudes, or representations of what children should believe, the attitudes they should endorse, and how they should behave to be considered successful and upstanding members of one's social group (Alsaker, 1995). When parent-child communication messages intend to form specific values in the child it can be considered socialization. The present study did not include items specific to what messages mothers would give adolescents during puberty, and findings may not contribute conclusively to existing literature for puberty socialization.

Still, it is important to consider how socialization goals may influence the observations mothers make during the child's pubertal development and the ways mothers react, including their decision to communication about puberty. Specific to puberty, socialization messages are likely to address the social transition that

accompanies physical maturation. For example, as adolescents become adult-like in appearance, the behaviors expected from them may also change to be more adult-like (Alsaker, 1995). Mexican mothers expect daughters to behave more responsibly after puberty, and particularly after their 15th birthday (Quinceañera milestone similar to sweet 16), and raise expectations of contributions to the home, such as completing more chores, supervising siblings, and focusing on academics (Romo et al., 2014). Adolescent sons, on the other hand, may receive socialization messages during puberty that emphasize gender expectations, particularly if mothers are Mexican-born or endorse traditional gender roles (Raffaelli & Ontai, 2004). Although the current study could not assesses mother-child gender role-congruence, Latino/a family socialization practices suggest value similarity should be considered as a possible source of differences for what mothers' experience and observe, and how involved mothers chose to be with their child's pubertal development.

Assessing Mothers' Observations and Reactions

This study sampled mothers, not adolescents, to assess how other family members view and experience an adolescent's pubertal development. The current work emphasized family as a system, and the effect of a child's (or adolescent's) growth on parents. This is not a novel idea however, as a myriad of education and intervention programs already target parents, and often rely on the assumption that parents are well enough attuned to the body changes experienced during the onset (and progression of) puberty, and thus able to provide education and information in a timely manner that promotes healthy development and behavior. Similarly, education programs may assume that parents are aware of what their child knows regarding puberty, and whether the child's knowledge is

sufficient or lacking. However, it is possible that if parents are not aware if (and what) the child already knows about puberty, they may not be able to provide information, or be able to provide information in a developmentally appropriate or timely manner. The current study tested this assumption by assessing mother-reports of children's physical development (and knowledge of puberty) and whether mothers react to observed body changes.

The current study examined two potential antecedents of parent-child puberty-communication. Antecedents, especially physical growth, could cue parents to talk to children about puberty: 1) mother-rated child's pubertal development and 2) mother-rated child's knowledge about puberty.

Children's Pubertal Development

The pubertal period defines the time during which an individual's body transitions to be physically mature, capable of reproduction, and adult in appearance. Pubertal development begins hormonally one-to-two years prior to the first, overt physical sign: a growth spurt. The rate of change in height peaks after approximately 18-months. Simultaneously, body fat composition changes such that girls gain an average of 40% body fat, while boys lose 40% body fat (Berk, 2013; Cole, Cole, & Lightfoot, 2013). In all, initial hormonal changes included, a child's body can take nearly four-to-five years to undergo the pubertal changes seen during adolescence (Cole et al., 2013). This study sampled Mexican American mothers because their children undergo puberty at rates different than their peers; on average Mexican American adolescents, particularly females, begin and complete puberty approximately one-and-a-half years earlier than their white, non-Hispanic peers (Wu, Mendola, & Buck, 2002).

Mother-rated children's pubertal development.

Pubertal growth is measured as a composite of the physical milestones that change the adolescent's appearance to resemble adult-figures. These included, breast development and menarche for female adolescents, and thelarche, increased penile volume, and voice changes for males. Other physical changes also occur in both genders including, increased height, weight, axillary hair (underarm), and skin changes. Many of these changes are external and may be identified by mothers, most notably including breast growth, facial hair, and voice changes. Two milestones may not be as visible to mothers: menarche and increased penile volume. While boys may not share this milestone with mothers, girls may be more likely to alert their mother to menarche in search of female hygiene products.

The body changes experienced during puberty can be generally considered overt enough to draw public attention (Romo, Mireles-Rios, & Hurtado, 2015). From the general public, such attention is often not directly sought by the adolescent, unwanted, and can contribute to a negative experience of puberty (Bobier & Martin; Goldfarb & Lieberman, 2016; Romo et al., 2015). For parents, the same body changes often raise their attention to the child's maturation and transition to adulthood, and lead them to question if or how they should address these changes, and what (again, if and how) information they should provide children (Bobier & Martin; Dyson & Smith, 2012). While previous work largely supports that parents are aware of changes, no work has measured whether pubertal changes cue parents toward action, such as providing the child information about his or her body changes.

The current study examined mother's perceptions of their child's growth using several of these physical milestones; within this work, it is presumed that mothers' perceptions may be more important than development itself, as it is these perceptions that may influence mother-child communication.

Mother-rated children's pubertal knowledge.

Adolescent's knowledge about puberty and the changes that transition their body from childhood to adulthood has been a construct of key interest across the field of adolescent development. Parents, most often mothers, bear the responsibility to educate children regarding their bodies and puberty (Dyson & Smith, 2012). In general, more knowledge and information about a topic is associated with improved self-efficacy – for example, studies show adolescents who are knowledgeable about sex and contraceptives are more likely to delay sexual debut, but also more likely to use contraceptives and barrier methods to avoid both pregnancy and infection (Goldfarb & Lieberman, 2016; Kirby, 2007; Kohler, Manhart, & Lafferty, 2008 2008). In regards to puberty, adolescents report confusion and negative experiences of puberty related to a lack of knowledge about puberty, at times even awareness that puberty will occur (Goldfarb & Lieberman, 2016; Ponzetti Jr, 2016b).

Although "puberty" is not synonymous with "sex," previous work finds Hispanic parents may hesitate to discuss puberty and sex because of concerns that providing information (i.e. adolescents' having knowledge of puberty or sex) implies permission for, or even encourages, sexual behaviors (Guilamo-Ramos et al., 2006b). This study examined whether the amount of knowledge mothers perceive a child has about puberty,

not “sex,” predicted mother’s inclination for and initiation of puberty-communication using a Mexican American sample.

Mother-Child Communication

The conceptual framework that guided the present study emphasizes the importance of family socialization and communication (including mother-child communication) for the transmission of information from parent to child. Communication – talking and listening – is an integral part of the parent-child relationship.

Communication has been examined a variety of ways, with nearly all research indicating that the existence and extent of communication between parents and children regarding sex, sexuality, and puberty, can have a positive impact on promoting health behaviors and delaying or reducing risky behaviors and outcomes (Angera, Brookins-Fisher, & Inungu, 2008; Askelson et al., 2012; Blake, Simkin, Ledsky, Perkins, & Calabrese, 2001; Cupp et al., 2013; M. de Looze et al., 2015; Diiorio, Pluhar, & Belcher, 2003a, 2003b; Feldman, 2000; Hyde et al., 2013; Jaccard & Dittus, 2000; Jaccard, Dittus, & Gordon, 1998, 2000; Miller, Kotchick, Shannon, Forehand, & Ham, 1998; O'Donnell et al., 2007). Research has found the importance of parent-child communication to be so substantial and significant, that communication itself has become the outcome measure of numerous evidence-based intervention programs wherein parent-child communication is an example of parental behaviors that protect against negative outcomes of sexual behaviors (Santa Maria et al., 2015). Yet, communication about sex, not puberty, has received the majority of attention, even though pubertal development precedes sexual behaviors. Recent work focused on puberty echoes the need for research on parent-child

processes (including communication) specific to puberty and physical maturation (Marceau, Ram, & Susman, 2015).

Previous qualitative work using independent mother and daughter focus groups found that although mothers report communication with daughters about puberty, daughters report an incomplete understanding of puberty (Thelus Jean et al., 2009). Daughters' understanding of puberty, including specific body changes and timing, differed between younger girls (6-9 years old) and older girls (10-12 years old); the majority of young girls did not know the word puberty but had positive expectations of growing up, while older girls recalled learning about puberty from various sources (e.g. television, school nurse, websites) and were most concerned with menstruation and breast development (Thelus Jean et al., 2009). Most interestingly, younger girls reported expecting puberty at age 15, three years older than all of the participants in the focus groups (many of which had experienced menarche) and three years older than the average age of menarche. This study addressed one of the gaps identified by Theleus (2009): initiation practices on puberty communication. In the present study, this was examined as who initiates parent-child communication about puberty.

Furthermore, communication regarding puberty may naturally evolve towards communication regarding sexuality and sexual behaviors, in a way that more effectively promotes the importance of healthy behaviors. Previous work using adolescent samples has found that comfort and openness predict whether or not teens talk to their parents about sex, and further out, delay of sexual behavior (Sneed, 2008; Zamboni & Silver, 2009). Finally, it is important to consider that menarche indicates the physiological capacity for reproduction, regardless of a girl's (or boy's) understanding of puberty,

sexuality, sexual intercourse, fertility, conception, etc.; that is, a girl or boy could find themselves mimicking sexual behaviors and intercourse without sufficient awareness and understanding of its consequences (L. R. White, 2013).

The current study examined parent-child communication about puberty, specifically inclination toward communication and initiation of communication. Rather than measuring aspects of communication process itself (i.e. content or frequency), the current study examined constructs akin to motivation processes; inclination, similar to intention (Ajzen), reflects drive for communication, and initiation reflects actions taken toward communication.

Inclination.

The current study explored inclination for communication from an affective positive, such as comfort and story telling. Previous research on parent-child communication regarding puberty (and sex) finds that parents have conflicting emotions about talking to their children. The majority of work has examined specific reasons for engaging in communication, or patterns in communication about sex/sexuality. For example, previous studies indicate that parents are willing to talk to their children, and often want to talk to their children about puberty and sex, but also report feeling embarrassed, unknowledgeable, and fearful (Cox et al., 2010; Hyde et al., 2013; Jerman & Constantine, 2010; Rouvier, Campero, Walker, & Caballero, 2011; Sciaraffa & Randolph, 2011). Moreover, parents' recognition of themselves as knowledgeable regarding sex/sexuality predicted their comfort and confidence for talking about sex and sexual behaviors (Morawska et al., 2015). Taken together, such studies illustrate the complexity behind parents' abstract want for communication and concrete actions toward conversations.

Physical development may predict parent-child communication regarding puberty, in that parents may feel the need to convey new information, responsibilities, or warnings, as they face a child who more closely resembles an adult. Lehr and colleagues (2005) found sons' reported pubertal development was positively associated with increased father-reported discussions and conversations about sexuality (i.e. greater pubertal development predicted greater father-son communication) (Lehr, Demi, DiIorio, & Facteau, 2005). Similarly, a study of African American mothers and children (aged 9-12) found that mothers' comfort, skills, and knowledge regarding sex/sexuality and puberty were the strongest predictors of parent-child communication, and children's greater pubertal development increased the likelihood of mother-child discussions regarding puberty and sex/sexuality (Miller et al., 2009). Although both studies do suggest that physical maturation cues parents to the need for communication about puberty (and also sex/sexuality), both studies used children's report of physical development, not parents' perception of development. The accuracy of development may be greater for child reports, but assumes parents are equally aware of their child's development. For example, if parents are waiting until physical development is near completion (i.e. when there is no question about the child's transition to physical adulthood) to discuss puberty, then information about puberty may reach children later than ideal (i.e. after lack of information has already caused confusion and uncertainty about their bodies).

The current study examined if parents' perception of physical development predicted mothers' inclination towards puberty communication. By examining parental perceptions, the current work held that pubertal development, (1) occurs within the

context of family, and (2) affects parents as well as adolescents (recall parents are viewed as secondary agents of change in the conceptual framework guiding the current work).

Initiation.

General communication models identify a sender, a message, a receiver, and feedback. In parent-child communication, parents and children may act as both senders and receivers, as this process is interpersonal (Harris, Begg, & Upfold, 1980 1980). While inclination taps motivation for communication, initiation measures the more active aspect of opening the dialogue. This study examined whether mothers identify themselves or their child as typically initiating conversations about puberty (i.e. initiator, primary sender, of communication).

As with inclination, previous work has largely centered on initiation of communication regarding sex and sexuality. Previous findings, however, have not clearly identified who (parents or children) primarily initiates communication about puberty. The lack of clarity in some work can be attributed to the discrepancies in perception; for example, parents may report openness in communication, while adolescents report that the communication that does occur is not sufficient (Hyde et al., 2013), suggesting that a misunderstanding may exist between parents and adolescents about who should begin a conversation.

Cox, Scharer, Baliko, and Clark (2010), find further complexities in identifying mothers or children as the initiator of communication; mothers participating in focus groups about parent-child sex-communication reported mixed success when they initiated conversations (i.e. adolescents would reject the bid for conversation), but also reported the (perceived) importance of initiating conversations as a way of making their

adolescent aware that mothers were open and willing to talk about sex. While the importance of initiation may be complex and multifold (i.e. indicate willingness to talk as well as listen), such work is aimed at the processes within communication and goals for engaging in communication, not whether mothers report being the primary senders of information (i.e. initiating communication) or how the adolescent cues them to initiate conversations about puberty (i.e. physical development may be an indirect cue prompting mothers toward communication). The current study expands on previous findings by examining if mothers' perceptions of children's physical development predict mother reports that they initiate conversations about puberty.

METHOD

Overview of Methodology

This study quantitatively examined puberty as experienced by Mexican/ Mexican-American mothers, specifically how mothers' observations of (rating) children's physical growth and knowledge of puberty relate to mother-child communication.

Sample

This study drew an analytic sample from the broader study, Mexican-American Puberty Study: Mothers' Perspectives. The broader study recruited participants online, using electronic mail list services, research study announcements, and in-person at CommUnityCare Health Center clinics and community events in the Greater Austin area. Eligibility criteria for the broader study included:

1. Self-identifying as Mexican/Mexican-American (as either born in Mexico, or have at least one parent born in Mexico)
2. Identifying as female ('mother')

3. Having at least one biological child between the ages of 12-15 years, who resides at least 75% of the time within your household

4. Being literate in English or Spanish (able to read and write)

The sample taken for this study included 144 participants who provide sufficient data for key variables. No exclusion criteria were specified.

Procedure

Data for this study (part of the "Mexican-American Puberty Study: Mothers' Perspectives" study) was collected between spring of 2016 and summer of 2017. At this time, data collection for the study is ongoing. Participants were recruited using online and in-person recruitment strategies and surveys were administered immediately following recruitment. All items were consistent across online and hardcopy versions. Surveys only differed in formatting, particularly with respect to the target child's gender. Online materials made use of formatting options including skip logic and display logic in order to guide participants to specific items as appropriate. Hard copy surveys were formatted so that participants could identify when items were not relevant (i.e. male puberty items were irrelevant for participants with a female target child) and should not be answered. Online materials were provided in either English or Spanish (participant's choice), while hardcopy materials included both languages. The following section elaborates on procedures specific to online and in-person data collection.

Online Data Collection.

Online participation procedures included: (1) Receipt of research announcement via email, (2) Language selection, (Villarruel et al.) Screening form, (4) Data survey, and (5) Raffle entry. Participants received a research announcement via email as distributed

by various online networking groups including Las Comadres Para Las Americas and UT Know Events. Las Comadres Para Las Americas is a women's networking group for women with heritage in Spanish-speaking countries. UT Know Events is the university announcement newsletter. The research announcement included eligibility criteria, the study purpose, and provided a link to the screening form. Online participants were able to complete the survey through desktop or mobile devices, and presumably completed surveys at a convenient and comfortable location.

Online participants were first directed to a language selection screen that prompted them to continue in either English or Spanish. Given the pre-established literacy status of participants who received study information via email, the language selection was added so that online surveys could be viewed in a single language. The participant was then asked to complete the screening form (in the language previously chosen), and if eligible was given additional project information (i.e. the IRB approved consent to participate in online research). Participants were asked to select whether or not to continue, and given a password to open the data survey. The password was included as a validity checkpoint to verify continuing participants were indeed consenting to proceed. All participants were given the same password.

In total, participants may have progressed through four separate Qualtrics surveys (procedure steps 2-5). The screening form and survey were connected through embedded data: the first name of the target child identified from information in the screening form (oldest child between 12-15) was embedded into instructions and items in the data survey. The raffle entry survey was kept separate from the data survey, and did not use any information received from previous panels (i.e. data survey or screening form).

Identifying information was only collected for the raffle entry (first name and one method of contact).

The Qualtrics surveys remained open for one week, at which time the survey was considered 'expired.' Ballot box prevention was also enabled across data surveys so that participants could not submit multiple entries or surveys. Participant emails were not collected individually as the research announcement and link was distributed through existing list serves. In the event that participants submitted questions to the group administrator for Las Comadres (as a reply to the email), the participant's email was forwarded to the research email and I replied as necessary. Any email exchanges were recorded as research communication and will be subject to shredding parameters as specified in the approved IRB protocol.

In-person Data Collection.

In-person participation procedures included: (1) Recruitment introduction (implicit language selection), (2) Screening form, (Villarruel et al.) Data survey and raffle entry, and (4) Material return. During initial recruitment, research assistants briefly introduced themselves and the study. During this introduction, research assistants followed potential participant's language cue to determine whether to proceed in English or Spanish. Potential participants were asked if they were interested and willing to answer a few questions to determine eligibility (i.e. complete the screening form). Research assistants completed the screening form with the potential participant, determined eligibility, and maintained all completed screening forms secure during field visits.

Participants who were eligible and agreed to participate were then given more information about the survey and materials. After giving verbal consent, participants

were given a clipboard that held the data survey, raffle entry, envelope for raffle entry, and envelope for data survey (shown in that order). Participants were acquainted with the survey (i.e. shown the first two pages and instructions for bubbling or entering responses), shown the raffle entry, and shown both envelopes. Participants were asked not to give any identifying information on the survey (e.g. do not write your name on this survey). Participants were also instructed to seal their completed survey in the provided envelope labeled 'MAPS Moms Survey' and their raffle entry (optional) in the envelope labeled 'MAPS Moms Raffle Entry' before returning materials to the attending research assistant. All materials were collected before the participant departed the clinic (or event).

The study survey (data survey) was designed as a 'waiting-room' activity, and pilot tested to be completed in 15-20 minutes (M= 17 minutes, range of 9-27 minutes). Participants at health clinics who were unable to complete the survey prior to their consultation were allowed to take materials into the consultation area to complete during other idle time. Participants were also offered seating at the research team's recruitment table to encourage completion of the survey.

IRB Approval and Consent

Study 2 of the current is part of the broader study, "Mexican American Puberty Study: Mothers' Perspectives," reviewed and approved by the Institutional Review Board of The University of Texas at Austin. The principal investigator for the current work (Study 2) is listed as a Co-PI within that IRB application and has been highly involved in the study's conception, design, and implementation.

The study received a waiver of written consent for both in-person and online participants. The waiver was requested and approved to ensure that participants provided

equal information, regardless of method of participation. Both methods included information about the study's purpose, risks, benefits, and procedures according to the consent for electronic participation protocols of the University of Texas at Austin Institutional Review Board.

Incentive for Participation

Participants were given the opportunity to enter into a raffle for a gift card to thank them for their participation in the study. It was expected that most participants would enter the raffle, as entry did not require any additional procedures or present additional burden. Gift cards were available in the amounts of $10 (Amazon.com), $25 (H-E-B Grocery) and $50 (H-E-B Grocery). In order to grant participants an equal chance to win a gift card, drawing pools included entries received online and in-person. The following drawing protocols were established: two $10 gift cards are awarded to drawing pools of 20 entries, one $25 gift card is awarded to drawing pools of 25 participants, and one $50 gift card is awarded to drawing pools of 125 entries. Raffle entries were mutually exclusive for each gift card value; that is, entries 1-20 were considered for the $10 gift card, and entries 1-25 were considered for the $25 gift card. Entries were retained in subsequent drawings, even if previously selected as a winning entry.

The raffle entry required participants to provide their first name (only), and one method of contact either phone number or email. On each raffle entry participants were made aware that this information would not be linked to their survey or screening form, and that information would only be used if the entry were selected to receive a gift card. Only selected participants (those who were drawn at random to receive a gift card) would be contacted, and asked to provide a mailing address for gift card delivery. At this point,

any selected participant who did not wish to provide a mailing address would be offered the option to pick up the gift card at the University of Texas at Austin campus. Participants were also able to decline a gift card if they did not wish to provide a mailing address, make arrangements for pick up, or receive the gift card in general.

Measures

The following sections describe the major constructs to be examined in study 2, and specific survey items. Mothers were advised to respond to all items in reference to the 'target child' identified as the oldest child within ages 12-15. Although not specifically noted at each construct, all items were mother reported. Online surveys were able to use embedded data features to remind participants of the target child's first name. Research assistants wrote in the target child's first name as would have been done via Qualtrics. Survey items relevant to study 2 of the current work can be found in Appendix L.

This study examined two predictors: 1) Child's pubertal development stage, and 2) Child's knowledge of puberty, and two outcome variables: 1) Mother's inclination towards puberty communication, and 2) Initiation of puberty communication.

Child's Pubertal Development Score

The Pubertal Development Scale (PDS) originally a self-reported scale, was adapted to be completed by mothers and measure their perception of physical development ((Cance et al., 2013; Petersen, Crockett, Richards, & Boxer, 1988). The original five-item PDS scale (including subjective and objective items) has been widely used by research since its inception, and reports appropriate alphas to indicate validity for both males (alpha range = .68-.78) and females (alpha range = .76-.83), and a mean alpha

across both genders of .77 (Petersen et al., 1988). Subjective and objective items for gender-specific growth, as well as non-gender specific growth, indicated a child's pubertal development stage. Subjective items included: "Compared to most males/females your child's age, most of the time you feel your child is," (1 = a lot younger, 5 = a lot older) and "Compared to most other children your child's age and sex, do you think your child's physical development is," (1 = much earlier, 5 = much later). Responses were given using a 5-point Likert scale.

Objective items asked about the child's own growth, rather than growth relative to peers. Items not specific to gender ask about physical changes that occur for both males and females, for example: "Which of the following best describes your child's body hair growth? (Body hair means hair any place other than his/ her head)," "Which best describes the changes in your child's skin such as pimples?" Responses were given on a four-point scale where 1 indicated, "[growth has] not yet started" and 4 indicated, "[growth] seems complete." Higher scores indicate more complete pubertal development.

Gender-specific items for males asked mothers to rate her son's voice changes (i.e. deepening) and facial hair growth. Responses were given on a similar four-point scale where 1 indicated no growth, and 4 indicated nearly complete growth. Gender-specific items for females asked mothers to rate her daughter's breast development on a similar four-point scale (1= no growth, 4= growth complete), menarche status ("Has she ever had a menstrual period?), and age of menarche ("How old was she when she had her very first menstrual period?). Although mothers report data in study 2, the reliability measurements from work comparing adolescent reported pubertal development and interview reported pubertal development (i.e. outside observations of adolescents'

physical development) suggest consistency among reports and a median correlation of .70 (range .41-.78) (Petersen et al., 1988).

Physical development scores were calculated by averaging across the three non-gender-specific items and two gender-specific items. Physical development scores were adjusted for the child's age to determine stage categories. Stage categories measure whether pubertal development is underway. Three stages were expected: 1) physical development not yet experienced (prepubertal), 2) presently experiencing physical developments (pubertal), and 3) physical development complete (postpubertal). The three expected pubertal stage categories are also supported by existing research using the Pubertal Development Scale (Petersen et al., 1988).

Child's Knowledge of Puberty

One item measured whether mothers believe their child knows enough about puberty, "Do you think your child has enough information (knows enough) about puberty for his/ her age." Participants responded using a 5-point scale (1 = not enough, 3 = exactly enough, 5 = too much). This item obtained a mother's perception of what her child knows, rather than an assessment of the accuracy of information the child may have, or an objective measure of information (i.e. puberty quiz) as mothers may be less able to accurately provide such information. This item was adapted from the initial Mexican American Puberty Study conducted with Mexican American adolescents and existing research (Cox et al., 2010; Thelus Jean et al., 2009). Since this item and construct was created from qualitative work calling for the measurement of mothers' awareness of adolescents' preexisting knowledge, no previous alpha measures can be reported (Cox et al., 2010; Thelus Jean et al., 2009).

Mother-Child Communication

The current study examined two specific constructs underlying mother-child communication: 1) mother's inclination towards puberty-communication, and 2) initiation of puberty communication (i.e. who initiates conversations regarding puberty).

Inclination Towards Puberty Communication.

Four items measured mother's inclination towards puberty-communication (Cox et al., 2010). Three items are affective, "I feel comfortable talking to my child about puberty, and his/her pubertal development," "I feel my child is comfortable talking to me about his/ her pubertal development," answered using a 5 point Likert scale (1 = Strongly disagree, 5 = strongly agree), and "when talking to [target child's first name] about puberty in general, I feel [response]," answered using a 5 point Likert scale (1= Very uncomfortable, 5 = very comfortable). A fourth item asks about education, "I know enough about what happens during puberty to talk to my child about his/her development," answered on a 5 point Likert scale (1 = strongly disagree, 5 = strongly agree). Responses for the four items were averaged so that higher scores indicate a greater inclination towards puberty-communication.

The four items listed were created from previous qualitative work (Cox et al., 2010), and have not been tested quantitatively. However, consistency and validity can be expected across items since items were drawn from the theme "communication timing," which was defined and discussed as, "[the] temporality of communications includes both situationally and developmentally appropriate discussion. The mothers suggested that certain developmental milestones should be achieved before conversations of sex can occur" (Cox et al., 2010, p. 191).

Survey items also considered the theme "communication style," defined as "the means by which information is communicated and may include both verbal and nonverbal behaviors. Variables in the style of communication include whether the information is presented through verbal or written means and the way that communication is initiated. The comfort level of the parent in discussing sex with their adolescent likely also influences the style of communication. The mothers typically described verbal communication, either initiated by the child or the mother, as the means by which they communicated about sex" (Cox et al., 2010, p. 190). This theme also supported the need to quantitatively examine inclination with respect to mothers' comfort for communication, and initiation.

Initiation of Puberty Communication.

A single item measured initiation of communication: "Which of the following statements best describes how conversations with your child about puberty begin?" Participants were given six response choices: "We have never had a conversation about puberty," "I always initiate conversations about puberty," "I usually initiate conversations about puberty," "My child and I initiate conversations about puberty with equal frequency," "My child usually initiates conversations about puberty," or "My child always initiates conversations about puberty." This item was informed by Cox et al's (Cox et al.) qualitative work, specifically the theme "communication style" (previously defined in within the section *Inclination Towards Puberty Communication* (Cox et al., 2010, p. 190).

Control Variables

Analyses included several control variables: mother's age, marital status, subjective socioeconomic rating and language preference. Socioeconomic status was measured using the MacArthur Subjective Social Ladder (Adler & Stewart, 2007). The item presented an image of a ladder with the following instructions, "Where would you place your family on this ladder where at the top are those who have the most money, education, and respected jobs, and at the bottom are the people who are worst off? Please choose the number that best represents where your family stands relative other families in the U.S." Participants selected a number, which aligned to a rung on the ladder, between 10 ("worst off," bottom of the ladder) and 1 ("best off," top of the ladder). As such, a subjective socioeconomic ranking should capture how well participants believe they are able to provide for their family financially (e.g. meet hunger needs), socially (e.g. meet children's social or extracurricular needs), and structurally (e.g. provide stable and safe home).

Analysis Plan

Data analyses for study 2 included preliminary analyses, confirmatory analyses, and hypothesis testing. Data was merged across Qualtrics and Excel (in-person data entry) and analyzed in SPSS.

Research Questions and Hypotheses

This study examined two specific research questions and hypotheses. Figure 3 presents the analytic model and pathways examined.

1. Is a child's pubertal-development (as perceived by mothers) associated with mothers' inclination towards puberty communication (Path A)? It was hypothesized

that more advanced physical development would predict a greater inclination for communication. That is, mothers who perceive their child's physical development is underway or nearly complete, would report greater inclination towards puberty communication compared to mothers who perceive their child's development has not yet begun. Pubertal development score was measured as an ordinal variable.

2. Is a child's pubertal development (as perceived by mothers) associated with mothers' initiation of puberty communication (Path B)? It was expected that degree of development would predict who is identified as the primary initiator, either mother or child. Specifically, it was expected that communication is mother-initiated for children who are experiencing puberty (i.e. whose physical development is more visible, thus have higher pubertal development scores). Mothers may be more active in speaking about puberty when physical, pubertal development is overt.

3. Is a child's knowledge of puberty (as perceived by mothers) associated with mothers' inclination towards puberty communication (Path C)? It was expected that mother who believe their child knows more about puberty, also report more inclination to talk about puberty as a reflection of open communication. Mothers may also be more inclined to talk about puberty if they feel a child knows more than enough as a precaution to monitor the child's sources of information and knowledge itself.

4. Is a child's knowledge of puberty (as perceived by mothers) associated with mothers' initiation of puberty communication (Path D)? It was expected that mothers who reported higher values of child's knowledge, also reported initiating conversations themselves (mother-initiated). It was also expected that mothers

reporting higher child's knowledge score were more likely to report equal-initiation of conversations about puberty, compared to the category mother-initiation, such that results reflect more open mother-child communication. It was also expected that mothers who reported less pubertal development, were more likely to endorse the category of not-mother initiated, compared to mother-initiated. This would reflect that without physical signs of puberty, mothers are less likely to start conversations about puberty.

Preliminary Analyses & Confirmatory Analyses

Data was first assessed for missing value patterns and descriptive statistics including means, standard deviations, distribution statistics, and correlations. The sample size and subsamples were assessed for the proposed analytic models. Exploratory and confirmatory factor analyses were performed to ensure individual items loaded to each construct. Linear regression (i.e. multi-linear regression when including covariates) was used to examine pathways A and C (see Figure 3); multinomial logistic regression was used to examine pathways B and D (see Figure 3).

Linear Regression

Linear regression was used to examine the strength of associations between mothers' report of child's pubertal development scores and mothers' inclination towards puberty communication (Path A). Linear regression was also used to examine whether greater knowledge of puberty is associated with an increase in mothers' inclination towards puberty communication (Path C).

Analyses followed the methodological guidelines of Howell (2012) for conducting linear regression (and multiple linear regression using covariates). The

predictor variable was created as an ordinal variable where higher values indicated more complete development across pubertal development milestones. In path C, child's knowledge is measured using a single, continuous item. Although knowledge was measured on 5-point Likert scale initially, analyses dropped the fifth response category (my child knows "too much") for two reasons: first, only one participant (1 of 144) endorsed this response, and second, the response itself may be qualitatively different from the other responses (knows "not enough" to "more than enough"). The outcome variable, mothers' inclination toward puberty communication, was assessed continuously with low values indicating lower inclination, and greater values indicating greater inclination.

Multinomial Logistic Regression

Multinomial logistic regression, MLR, was used to examine the strength of associations between mothers' report of child's pubertal development and initiation of puberty communication (Path B). Analyses followed recommendations presented by Starkweather and Moske (2011) for conducting multinomial logistic regression (including covariates). In multinomial logistic regression it is possible to compare nominal and continuous predictors and nominal outcome variables relative to specified reference categories (for nominal variables). For example, in Path B, the independent/predictor variable of child's pubertal development is a continuous (ordinal) variable (where higher scores indicate greater pubertal development). Nominal covariates are compared to a reference category; for example, intact marital status would serve as the reference group and be compared to non-intact marital status. The reference group compared to itself produces a value of 1 that serves as the benchmark for comparison.

The outcome variable for pathway B, initiation of puberty communication, was assessed categorically with three possible categories: 1) Mother initiated (reference category), 2) Equally initiated, and 3) Not mother initiated (the combined category created from responses “child initiates conversations” and “never had a conversation”). The outcome portion of analyses included two comparisons: equally initiated compared to mother-initiated (category 2 vs. category 1), and not-mother initiated compared to mother-initiated (category 3 vs. category 1).

MLR was also used to examine mothers’ report of child’s knowledge of puberty and initiation of puberty communication (Path D). The predictor variable in path D, child’s knowledge of puberty was measured continuously, on a four-point scale (adjusted as in path C). The outcome variable in Path D, initiation of puberty communication, was measured as in path B; that is, categorically with mother initiated as the reference category, against the categories equally-initiated and not-mother initiated.

The reference category in multinomial logistic regression is compared to itself producing a likelihood estimate of 1.0 (Starkweather & Moske, 2011). Results provide the estimated multinomial logistic regression coefficients (β), estimating all comparison models simultaneously for k-1 models (k being the number of levels/ categories of the outcome variable). In order to obtain the odds ratio, coefficients are exponentiated (termed: Exp(β)). It is the Exp(β) values that are assessed as odds ratios compared to 1.0 (the reference category’s odd ratio). Odds ratio values greater than 1.0 indicate that the outcome category is more likely compared to the outcome reference category. Odds ratio values less than 1.0 indicate the outcome comparison category is less likely than the outcome reference category. Further statistical significance is determined using the 95%

confidence interval for each Exp(β) value. Confidence intervals that include 1.0 (the odds ratio for the reference category) would indicate that the multinomial odds ratio is not significant.

RESULTS

Sample Statistics

The overall study sample included 144 participants who met eligibility criteria including: identifying as Mexican or Mexican-American, with a biological child between ages12 – 15 who resided within their home at least 75% of the time. The final analytic sample included the 133 participants who had non-missing data on at least four of the five items required for the construct pubertal development score; the removed cases were largely incomplete or did not complete items necessary for the current analyses. The four-item minimum was set to establish validity for the construct, so that pubertal development scores comprised of only one-, two-, or three items were not considered equally accurate as scores comprised from four-, or five items; this construction followed Petersen's (1988) recommendation to use as many of the five indicators as possible, while allowing for one instance of missing data. Further analyses handled missing data using pairwise exclusion.

Sixty-three percent of participants completed the study in-person (see Table 11). Participants ranged from 27 to 56 years of age (*M = 40.17 years, SD = 5.82 years)*, had on average three children, and 24 years living in the United States (*M = 24.73, SD = 13.02)* (see Table 11). Participants completed the survey in reference to their oldest child within the ages of 12 – 15, identified as the 'target child.' Target children, were on average 13.65 years old *(SD = 1.05)*, modally the first-born child, and 53% female.

Participants also reported marital status (72% married/living with a partner), household size (*M = 4.77, SD = 1.54),* number of children in the household (*M = 2.80, SD = 1.47*), and relative socioeconomic status (*M = 5.16 on scale 1 – 10, SD = 2.05*). Language preference had a mean of 1.80 (*SD* = .85), with 24.8% (33) mothers preferring English, 47.4% (63) preferring Spanish, and 27.8% (37) preferring English and Spanish equally.

Interest variables were examined between data collected on Qualtrics and data collected in-person. Only mother's age (F = 9.13, p = .003) and relative socioeconomic ranking (F = 9.75, *SD* = .002) were significantly different between groups. Since only two variables were significant and analyses did not initially propose between group analyses, data was retained as a single sample. Missing value analyses revealed a variety of missing data patterns and reliability across the majority of data, though 10 cases were consistently removed from analyses due to missing values on key items such as target child gender, physical development items, or target child age. Reasons for missing data on key variables are further discussed in the limitations.

Construct Analyses

Pubertal Development Scores

The pubertal development score was calculated as the mean of puberty items (where no more than one item was missing). The pubertal development score for adolescents (merged across child sex) was used in remaining analyses. The mean pubertal development score, on a scale of 1-4, for girls was 3.05 (*SD = .49*) and for boys, 2.48 (*SD = .61).* Across all adolescents, mother-reported pubertal development had a mean score of 2.78 (*SD* = .62) (see Tables 13 and 14).

Child's Knowledge

Child's knowledge of puberty as a single, 1-4 scale item had a mean of 2.62 (*SD = .97)* and a modal response of "exactly enough" *(n = 43, 34.4% of the sample) (*see Table 15). Child's knowledge was initially measured using a 1- 5 scale, however, only one case endorsed the fifth response value ("too much") and was dropped from analyses.

Mothers' Inclination toward Communication

Scale analyses confirmed loading values and reliability for items within the construct of mothers' inclination toward communication about puberty. Items were moderately correlated with correlation values ranging .25 - .52. Factor analyses showed an alpha of .73, and factor loadings between .59 - .76 (see Table 16). The constructed scale had a mean of 3.92 (*SD = .77*) (see Table 16).

Initiation of Puberty Communication

Initiation of puberty communication was assessed as three categories where membership indicated who, mother or child, was identified as initiating conversations about puberty. Three categories were created based on participants' response, membership in each category was: 71 (55.9%) mother-initiated communication, 41 (32.2%) equally initiated communication, and 15 (11.8%) not-mother initiated (i.e. either child initiated or never had a conversation about puberty) (see Table 17).

Table 18 shows correlation values constructs analyzed in pathways A – D.

Path A. Child's Pubertal Development and Mothers' Inclination Toward Puberty Communication

Path A examined if pubertal development scores predicted mothers' inclination toward communication, using multi-linear regression with a two-model approach (see

Table 19). The first model (initial) tested only the predictor and the outcome. The second model tested the predictor, outcome, and covariates.

Results from the initial model which tested the predictor, pubertal development score, and the outcome, inclination toward communication indicated significant results, $R^2 = .046$ $F(1, 131) = 6.26$, $p < .05$. Greater pubertal development significantly predicted greater inclination toward communication ($B = .214$, $p < .05$).

Results from model 2, which included the covariates mothers' age, marital status, English language preference, and relative socioeconomic status, showed the overall regression was non-significant, $R^2 = .083$, $F(5, 113) = 1.96$, $p = .09$. Though the regression was non-significant, parameter estimates again indicated pubertal development significantly predicted mothers' inclination toward puberty communication (*B = .251, p = .01) (*see Table 19).

Overall, results suggest a positive linear relationship exists between adolescents' pubertal development and mothers' inclination toward communication, but little less can be deduced as to the consistency of this relationship. Given data was collected at a single time point, it is possible that the slight-to-moderate correlation between pubertal development scores and inclination toward puberty communication scores (*r = .214, p* < .05) reflects a positive, but stagnant relationship between the two variables (see Table 18).

Path B. Child's Pubertal Development and Initiation of Puberty Communication

Path B examined if pubertal development scores predicted who initiated conversations about puberty, mothers, adolescents, or both (see Table 20). Two models were examined using multinomial logistic regression; the first model included only the

predictor and outcome, the second model also included covariates. Only model 1 was significant (Model 1 $X^2 = 6.715$, $df = 2$, $p < .05$; Model 2 $X^2 = 20.470$, $df = 12$, $p = .059$).

Results from the first model showed that pubertal development scores did not significantly predict that conversations about puberty were equally-initiated, compared to mother-initiated ($B = .08$, $p = .81$). That is, pubertal scores were unable to solely predict whether mothers, or both mothers and children initiated puberty communication. Mothers who reported lower pubertal development scores, however, were significantly more likely to also endorse the category not-mother initiated (meaning that either the child initiated conversations, or she and the child have never conversed about puberty) compared to mother-initiated communication by a factor of .34 ($B = -1.08$, $p < .05$, Exp(B) = .340 [CI = .140, .825]). Low pubertal development scores could be due to the child only beginning puberty, or mothers not recognizing pubertal development. Results suggest that for either reason, mothers are not initiating conversations about puberty but rather the child is soliciting information, or mother and/or child are avoiding conversations about puberty entirely. Results could not specifically distinguish between never had a conversation and child-initiated conversations about puberty due to subsample size.

Results for model two (with covariates) also indicated few significant results. Pubertal development did not significantly predict equal initiation of conversations, compared to mother initiation ($B = .162$, $p = .67$).

Mothers who reported lower levels of pubertal development for their child were significantly less likely to endorse the category not-mother initiated, compared to the category mother-initiated ($B = -1.52$, $p < .01$, Exp(B) = .217 [CI = .071, .663]). This

means, mothers with children earlier in puberty (i.e. lower pubertal development scores), are less likely to report that the child initiates conversations (meaning, mother initiates conversations) or that she and the child have never had conversations about puberty. This result might indicate that mothers initiate conversations about puberty during earlier stages of puberty. Additionally, in the model with all covariates, single mothers relative to married or partnered mothers, were 9.5-times more likely to report that either their child initiated conversations, or conversations have never occurred, compared the category mother-initiated (B = 2.258, p <.01, Exp(B) = 9.563 [CI = 1.909, 47.896]) (see Table 20).

Path C: Child's Knowledge of Puberty and Mothers' Inclination toward Communication

Path C examined if child's knowledge about puberty, as perceived by mothers, predicted mothers' inclination toward communication, using multi-linear regression with a two-model approach (see Table 21). The first model (initial) tested only the predictor and the outcome. The second model tested the predictor, outcome, and covariates.

The first model was significant, with an R^2 value of .143 (F = 20.476, p < .001). Results indicated that mothers who believed their child was knowledgeable about puberty reported greater inclination for communication about puberty (B = .378, p <.001). Results from model 2 indicated that child's knowledge significantly predicted greater inclination for communication about puberty while controlling for mother's age, marital status, preference for English, and relative socioeconomic ranking (B = .385, p < .001). Since mothers reported all measures, these results indicate that when mothers believe

their child is more knowledgeable about puberty, they are also more inclined to communicate with their child about puberty (see Table 21).

Path C was also examined in the other direction: does mothers' inclination toward puberty communication predict higher reported levels of child's knowledge about puberty. Results showed a significant regression including the covariates mothers' age marital status, English preference and relative SES, with an R^2 value of .184 (F = 4.637, p= .001). Mothers' inclination for communication about puberty predicted greater (child's) knowledge of puberty (B = .387, p < .001) (see Table 22).

Path D: Child's Knowledge About Puberty and Initiation of Puberty Communication

Path D examined whether child's knowledge about puberty predicted who initiated conversations about puberty, mothers, adolescents, or both (see Table 23). Two models were examined using multinomial logistic regression; the first model included only the predictor and outcome, the second model also included covariates. Results showed neither model significant overall (Model 1 X^2 = 3.816, df = 2, p = .148; Model 2 X^2 = 15.470, df = 12, p = .217) (see Table 23).

Non-significant results for model 1 indicate that child's pubertal knowledge did not predict mothers' endorsing the category equally-initiating conversations about puberty, nor the category of child-initiated or never-had conversations about puberty, compared to the category mother-initiated conversations about puberty (results presented in Table 23).

Results from model 2 also showed child's knowledge about puberty was not significant in predicting between categories (as in model 1 above). Results from model 2

did indicate that single mothers, compared to married or partnered mothers, were slightly over 3-times more likely to endorse not initiating conversations about puberty (endorse the category of not mother initiated), compared to the category mother-initiated puberty communication (B = 1.341, p = .04, Exp(B) = 3.82 [CI = 1.042, 14.031]) (see Table 23).

DISCUSSION

The present study examined relationships between pubertal growth and parent-child communication, from mothers' vantage point, using a sample of Mexican American mothers. Four hypotheses (paths) were tested, with results indicating mixed support for hypotheses and areas needing further attention. When mothers indicated greater pubertal development scores, they were also more willing to talk to their child about puberty. The simple relationship between pubertal development and inclination supported the hypothesis made in path a.

Path b results indicated that when children's puberty development was just beginning, mothers were more likely to take action and initiate conversations. Furthermore, we can conclude that when children are in the beginning stages of puberty, they may be less likely to initiate conversations about puberty. This conclusion, however, is largely conjecture given significant and non-significant results. That is, the model for path b indicated that in the simple linear regression lower pubertal development was less likely to belong to the category (communication) not mother-initiated; this category, however, was itself created to house responses that the child initiated conversations or mother and child had not had a conversation about puberty. So, when lower puberty scores are less likely to be in this category, one can conclude lower pubertal scores are more likely to be reported in the category of mother-initiated communication (the

reference category). The lack of significant results for the comparison mother-initiated vs. equally initiated, suggests the child is inactive and does not initiate communication. Taken together, findings suggest mothers report being more inclined toward puberty communication during the early stages of puberty.

Present quantitative findings support qualitative findings that Mexican American parents rely on the physical development they observe to determine when to provide information about puberty (Thelus Jean et al., 2009). Thelus (2009) also found Mexican American mothers were comfortable providing daughters information about puberty, but most used menarche as the assurance that the child was ready to learn about puberty; indeed, mothers reported on 71 daughters, of which only 5 had not experienced menarche at the time of interview. The mean age of menarche for the current sample was 11.51 years (*SD* = 1.26, *range* = 9 – 14). It is ironic that mothers are waiting for menarche to provide information about puberty, but menarche is the latest pubertal milestone.

The second predictor examined was child's knowledge about puberty, again reported by mothers and strictly a measure of how much, mothers think, their child knows about puberty. This is an important caveat because parents are unlikely to measure their child's knowledge through questionnaires or exams, so any rating given to this item is accurate only with respect to what the mother believes or feels, and based only on her experiences with the adolescent. Mothers, who felt their child knew more about puberty, were also more inclined to talk about puberty. Previous research finds that parent's confidence about sex, or the information they will be providing, significantly predicts communication (Morawska et al., 2015). It is possible that mother's confidence about what their child knows is stemming from confidence of what they have shared with the

child, rather than the child's actual knowledge. That is, mother's are only able to report their effort and perception not the child's actual knowledge.

This path, however, seemed theoretically possible in both directions. Indeed, results of path c reversed, showed similarly significant and logical results: mothers, who were more inclined to talk to their child about puberty, reported their child was more knowledgeable. Although the study design may be partly responsible for significance in both directions, the relationship between the concepts and the alignment between results, could suggest that mothers are communicating with their child enough for a feedback loop between the two constructs. That is, communication occurs from the parent-to-child and from the child-to-parent, such that mothers' are inadvertently assessing their own attempts to provide their child with information, or monitor what the child knows. Still, existing research would encourage mothers to continue any efforts for communicating puberty information, as adolescents may be encouraged by a parent's involvement, presence and willingness to address these topics (Mena, Dillon, Mason, & Santisteban, 2008). Overall, it may be best to consider the relationship between these constructs in research questions where more complex, nuanced models can tease apart significance, for more meaningful results.

Whereas path c may not contribute to existing literature as expected, path d provides additional evidence that the constructs, child's pubertal knowledge and mothers' inclination toward puberty communication, may be ill-suited as predictor-outcome variables, rather function both as predictors or both as outcomes, in other research questions. Child's pubertal knowledge did not show significance for either category (equally initiated or not-mother initiated) compared to the reference category, mother-

initiated. As such, path d analyses could concluded that when mothers report their child is more knowledgeable, mothers are also more likely to report initiating conversations about puberty.

In addition to the hypotheses tested, results indicated marital status and relative socioeconomic status might influence what mothers' experience with puberty. Marital status compared married or partnered mothers with single mothers. In path d, single mothers were more likely to endorse not initiating communication themselves, compared to mother-initiated communication. This suggests the family's context, particularly demographic characteristics that affect family structure and parenting practices should be considered as predictors. It is possible that single mothers who carry greater responsibility to provide for their family's financial and wellbeing needs, are more likely to let the child announce his or her needs for information regarding puberty (that is, begin conversations about puberty), than take initiative themselves. Still, the influence of cultural and contextual factors on socialization should be considered carefully; other demographic characteristics, such as same country of origin, are not significant predictors of (gender) socialization behaviors in Latino parents (Raffaelli & Ontai, 2004) of what or how mothers experience during their child's pubertal development. Though language preference was not significant in any pathway, it is also possible that mothers who report greater bilingualism are more aware of both, what they did not learn under traditional households, and the dangers their adolescent now phases within US culture; Guillamo-Ramos (Guilamo-Ramos et al.) suggest that such a two-world view would encourage mothers to communicate with their adolescent as an effort to provide protection.

It is unfortunate that girls may receive information after, not before, their first period and experience uncertainty or confusion. A separate study conducted by this study's research team, found that for Mexican American girls, puberty was nearly synonymous with periods (Cance, Orozco-Lapray & Petruzzi, *in progress*). Girls described the ways menarche and monthly periods changed their lives, such as needing new feminine hygiene products, being more self-conscious during their period (especially of stains), receiving new instrumental support from peers and teachers (including emergency clothing and pads) (Cance, Orozco-Lapray, & Petruzzi, *in progress*). A logical next research question would seem, *how could research or education change, menarche as the defining event of puberty for girls, so that parents felt comfortable providing information earlier?* And, if menarche defines puberty for girls, what defines puberty for boys?

Although this study did not examine cultural factors, several should be considered in future work. Mother-child congruence over pubertal development cannot be tested in the current study; however, Latino/a family socialization practices suggest parents' traditional cultural values contribute differently to parent-child socialization (Raffaelli & Ontai, 2004). Previous research finds that sexuality itself is viewed differently across immigrant parents who hold traditional values and those who have greater acculturation (Raffaelli & Ontai, 2004). Furthermore, as Latino parents transmit values and attitudes for gender (i.e. gender socialization), to sons and daughters, what parents convey about male and female roles, characteristics, and needs most reflects their own gender role attitudes (Raffaelli & Ontai, 2004). The data collected within the broader study could

assess mothers' cultural values, specifically their endorsement of male and female gender roles, and use values as predictors of mother initiation or mother inclination.

This finding also suggests parent-youth cultural congruence, defined as the gap or differences between parents' and children's endorsement of cultural values (Umaña-Taylor et al., 2014), creates significantly different conditions for mothers and children during the pubertal period. That is, the degree of congruence between mothers' and adolescents' definitions of puberty, or what mothers and adolescents associate with puberty (e.g. puberty is associated with body image), may affect how mothers even anticipate coping with their child's pubertal development. Furthermore, research finds that when children and parents are more similar to each other than they are different, families experience less conflict (Pasch et al., 2006). Families where mothers and adolescents are in agreement about social aspects of puberty development, such as dating, would have lower levels of conflict compared to families where there is less agreement. Lower family conflict during puberty, could buffer families against conflict that may arise later, when adolescents seek greater independence and engage in more autonomous behaviors, such as driving or attending college away from home.

Limitations

This study had several limitations. Most significantly the study is limited in its single-time point design. The predictor and outcome variables examined were collected simultaneously, limiting what models can examine. Results were presented with consideration of the limited capability to "predict" mother-child communication by pubertal development and child's pubertal knowledge. The survey time designed as 15-20 minutes, greatly limited the number of items that could be included. Items such as

language preference, and communication initiation would ideally be tested as multiple items. For example, initiator could have been four or six separate items, so that subsamples for each initiator (e.g. mother, equally, child, or never), had a sample size of 144 (or all participants).

In addition to item measurement, item construction may also limit study findings. Items and responses may be interpreted differently by participants and have lesser validity than assumed. Not enough is quantitatively known about this population to hold valid and measureable interpretations for items and responses. For example, mothers rated child's knowledge (*"Do you think [target child] has enough information (knows enough) about puberty for his/her age?")* on a 5-point Likert scale, where the last two options were, knows "more than enough" and "too much" – but, it is possible that option five, too much, is qualitatively different than options 1- 4. Of 144 mothers, only one reported her child knew "too much." This drew attention to the possibility that knowing too much about puberty may mean something entirely different; for example, mothers might feel their child knows "too much" if the child is sexually active.

This study did not obtain adolescent reports. While the absence of adolescent reports is a purposefully byproduct of the original study's design (i.e. the purpose of the broader study "MAPS Moms" was to examine mothers' experiences with puberty), it does limit the ability to determine accuracy or discrepancy scores across mother reports and adolescent reports.

Additionally, the eligibility criteria sought mothers with an adolescent aged 12 – 15, omitting by design adolescent who could be categorized as pre-pubertal and skewing the sample. Preliminary analysis for the current study attempted to create pubertal

development stages, but could not reach sufficient subsample size. Fortunately, as data collection continues to the broader study, the eligibility criteria will be amended to include mothers with an adolescent between the ages 10 – 12. Although additional data will still be single-time point, and will not include adolescent reports, the added sample should provide significant variability to the currently collected data.

CONCLUSIONS

The current study significantly contributes empirical evidence for the conceptual framework presented in chapter 2, namely: mothers are able to observe the physical development that occurs during puberty and take steps to guiding their child's experience. The stages presented in the conceptual framework should also consider that puberty is not within the typical ages of 12 – 15 for Mexican American adolescents. It is important that future work consider how much earlier puberty occurs for Mexican American adolescents, and methodologies to correctly capture puberty.

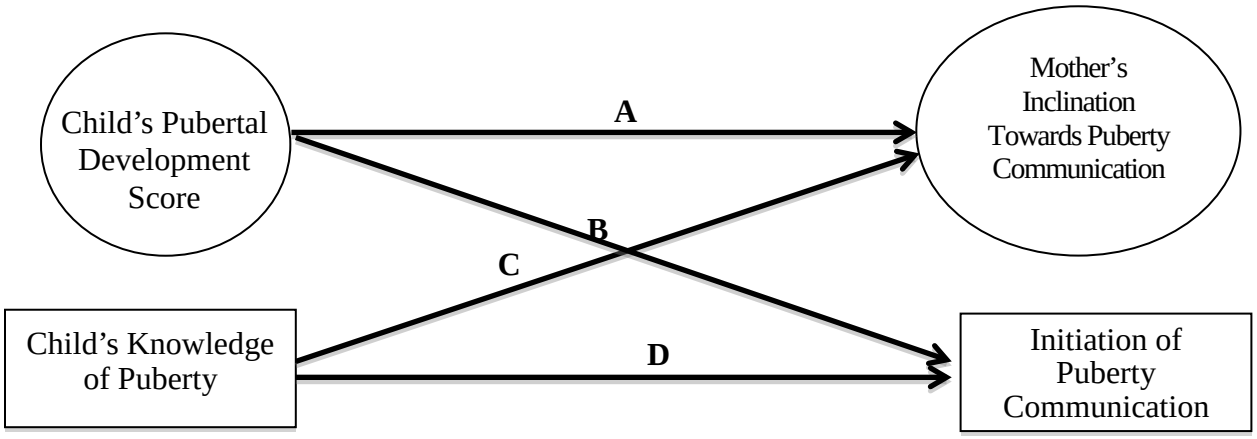

Figure 3: Study 2 Analytic Model

Figure 3 shows the analytic models examined in study 2, namely Paths A-D. All items/constructs are mother-reported. Path A examines whether mothers' report of child's pubertal development-stage is associated with inclination towards puberty communication. Path B examines whether mothers' report of child's pubertal development-stage is associated with initiation of puberty communication. Path C examines whether mothers' report of child's knowledge of puberty is associated with mothers' inclination towards puberty communication. Path D examines whether mothers' report of child's knowledge of puberty is associated with initiation of puberty communication.

Table 11
Data collection statistics

Overall Sample		Frequency	Percent	Valid Percent
Collection Method	Qualtrics	53	36.8	36.8
	In Person	91	63.2	63.2
	Total	144	100	100
Language preference	Spanish	70	48.6	48.6
	English	33	22.9	22.9
	Both Equally	41	28.5	28.5
	Total	144	100	100
Analytic Sample				
Collection Method	Qualtrics	50	37.6	37.6
	In Person	83	62.4	62.4
	Total	133	100	100
Language preference	Spanish	63	47.4	47.4
	English	33	24.8	24.8
	Both Equally	37	27.8	27.8
	Total	133	100	100

Note: Table 11 shows frequencies for the overall and analytic sample. Data collected through Qualtrics was collected entirely online where eligibility criteria programming allowed or denied a person's continuation past the general screening form. The overall sample included 144 participants who completed both the screening form and survey; screening-form data participants who were not eligible to continue to the survey are not included in analyses and largely were ineligible due to birth country (i.e. born in the U.S., with parents born in the U.S.). Language preference was assessed from one item with mutually exclusive response categories. The analytic sample was used for all analyses.

Table 12

Sample Descriptive Statistics for the Entire Sample and Analytic Sample

	N	Mean (SD)	Min.	Max.	Skewness	
Entire Sample	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
Mother's Age	124	40.03 (5.89)	27	56	0.39	.22
Num. Children	144	3.00 (1.42)	1	8	0.98	.20
Household size	140	4.77 (1.54)	2	9	0.73	.21
Children in the household	140	2.8 (1.47)	1	9	1.18	.21
Relative SES *Scale 1 - 10*	134	5.2 (2.03)	1	10	0.14	.21
Years in the U.S.	139	24.73 (13.02)	3	53	0.47	.21
Language preference	144	1.80 (.86)	1	3	.40	.20
Target Child's Age	144	13.6 (1.06)	12	15	-0.08	.20
Target Child's Birth Order Rank	143	1.69 (1.01)	1	8	2.75	.20
Analytic Sample						
Mother's Age	116	40.17 (5.82)	27	56	.42	.23
Relative SES *Scale 1 - 10*	128	5.16 (2.05)	1	10	.18	.21
Marital Status Intact	130	.72 (.45)	0	1	-1.0	.21
Language Preference	133	1.80 (.85)	1	3	.39	.21
Target Child's Age	133	13.65 (1.05)	12	15	-.12	.21
Target Child's Birth Order Rank	132	1.67 (.95)	1	8	2.86	.21

Note: Table 12 shows descriptive statistics for demographic items. Marital Status was measured dichotomously (1 = married/ living with a partner, 0 = single). Language preference was measured as, 1 = Spanish, 2 = English, and 3 = Both English and Spanish equally; this allowed for continuous and categorical assessment. All other items except Relative SES were open-ended, no scale provided. Min = minimum, max = maximum, SD = standard deviation. Descriptive information is first provided for the entire sample, N=144. The analytic sample for the examined pathways had a total size n=133, due to substantial missing data on key interest variables.

Table 13
Descriptive Statistics for Puberty Items by Child Sex for Analytic Sample

			Skewness		Kurtosis	
	Scale	Mean (SD)	Statistic	Std. Error	Statistic	Std. Error
Girls n = 71						
Body hair	1 – 4	3.01 (.76)	-.42	.29	-.15	.53
Skin changes	1 – 4	2.54 (.89)	-.17	.29	-.67	.56
Growth spurt	1 – 4	3.01 (.60)	-.004	.29	-.08	.56
Breast growth	1 – 4	2.96 (.71)	-.44	.29	.38	.57
Menarche	1 – 4	3.78 (.78)	-3.37	-.29	9.65	.57
Puberty Score, Total	5 – 20	14.44 (3.06)	-.83	.29	.54	.56
PubDevScore, Mean for Girls	1 – 4	3.05 (.49)	-.42	.29	.41	.56
Boys n = 62						
Body hair	1 – 4	2.61 (.80)	-.18	.30	-.31	.60
Skin changes	1 – 4	2.31 (.86)	.15	.30	-.58	.60
Growth spurt	1 – 4	2.84 (.66)	-.53	.30	.91	.60
Voice changes	1 – 4	2.52 (.95)	-.40	.30	-.86	.60
Facial hair	1 – 4	2.13 (.90)	.02	.30	-1.23	.60
Puberty Score, Total	5 – 20	12.31 (3.02)	-.33	.30	-.80	.60
PubeDevScore, Mean for Boys	1 – 4	2.48 (.61)	-.40	.30	-.84	.60
All N = 133						
PubDevScore, Mean for All	1 – 4	2.78 (.62)	-0.55	0.21	-0.09	.42

Note: N = 133 (total sample). Table 13 shows descriptive statistics for physical development items for Girls and Boys (target child sex) separately. Body hair, skin changes, and growth spurt are items applicable to both genders. Additional items are gender-specific. Menarche, for girls, was answered on a scale of 0 = no, 1 = yes, and rescaled to 1= no and 4 = yes. 'Puberty score, Total' is the calculated variable summing responses for physical development progress. 'PubDevScr, Mean' is the calculated, scaled variable of physical development (i.e. the mean of physical development items). PubDevScore for 'All' is the scaled physical development variable, calculated from appropriate gender items, combined for all adolescents. Mothers needed to provide data on at least 4 of the 5 items to be included in the analytic sample so that scores included sufficient measurements of pubertal development.

Table 14

Correlations for Pubertal Development Items by Child Sex for Analytic Sample

		1	2	3	4	5
Girls *n*=71	1. Body hair	1	.0303*	.343**	.557**	.295*
	2. Skin changes	.303*	1	.200	.263*	.112
	3. Growth spurt	.343**	.200	1	.510**	.000
	4. Breast growth	.557**	.263*	.510**	1	.219
	5. Menarche	.295*	.112	.000	.219	1
Boys *n*=62	1. Body hair	1	.558**	.348**	.347**	.576**
	2. Skin changes	.558**	1	.348**	.403**	.458**
	3. Growth spurt	.348**	.378**	1	.161	.203
	4. Voice Changes	.375**	.403**	.161	1	.631**
	5. Facial Hair	.576**	.458**	.203	.631**	1

Note: N = 133 (total). Table 14 shows correlation statistics for the indicators of pubertal development by child gender. Menarche was rescaled so that 1= no, 4= yes. Items 4 and 5 are gender specific; columns labels correspond to the item 4 or 5 within each gender section. When assessing scale reliability, sample sizes for boys and girls individually were indicated as too few. Significance 2-tailed. *p < .05, ** p < .01.

Table 15
Mother-Reported Child's Knowledge Of Puberty

Do you think [target child] has enough information (knows enough) about puberty for his/her age?	Scale	Mean (SD)	Skewness (Std.E)	Kurtosis (Std. E.)
	1 – 4	2.62 (0.97)	-0.12 (.22)	-.96 (.43)

Responses	Frequency	Valid Percent
Not enough	18	14.4
Closet to enough	38	30.4
Exactly enough	43	34.4
More than enough	26	20.8
Total	125	100.0
Missing (refused, dropped)	7	
Total	132	

Note: N = 132. Table 15 shows descriptive statistics for the construct, mother reported child's knowledge of puberty. Abbreviations: SD = Standard deviation, Std. E = Standard Error. Table shows descriptive statistics for the variable measured continuously. The fifth response category, "too much" was dropped as it may be quantitatively different than the other response categories, for an adjusted measurement scale 1 – 4.

Table 16
Descriptive Statistics for Items and Construct, Mothers' Inclination toward Puberty Communication

		Mean	Skewness		Kurtosis		Factor
	Scale	(SD)	Stat.	Std. Error	Stat.	Std. Error	Loadings
Mother's comfort	1 – 5	4.21 (1.04)	-1.69	.21	2.78	.42	0.745
Mothers' knowledge	1 – 5	4.02 (.95)	-1.08	.21	1.18	.42	0.595
Child's comfort	1 – 5	3.77 (1.01)	-.52	.21	-.41	.42	0.593
Shared stories	1 – 5	3.74 (1.10)	-.82	.21	.16	.42	0.626
MomInCom	1 – 5	3.92 (.77)	-.76	.21	1.10	.42	

Note: N = 127. Table 16 shows the descriptive statistics for the items and construct, mothers' inclination toward puberty communication. Abbreviations include: MomIncCom= Mothers' Inclination toward Communication Score. Items include: Mothers' Comfort = "I feel comfortable talking to [target child] about puberty, and his/her pubertal development," Mothers' knowledge = "I feel comfortable talking to [target child] about puberty, and his/her pubertal development," Child's comfort = "I feel [target child] is comfortable talking to me about his/her pubertal development," Shared stories = "When I talk to [target child] about puberty I share stories of my pubertal development." All items use a 5point (1-5) Likert scale. Factor loadings are unrotated.

Table 17

Descriptive Frequencies for Initiation of Conversations about Puberty

Item: *"Which best describes how conversations about puberty with [Target Child] begin?"*	N	Mean (SD)	Skew. (Std.E)	Kurtosis (Std.E)
	127	3.19 (.998)	-.097 (.22)	-.118 (.43)

Item response options	Frequency	Valid Percent
We have never had a conversation.	6	4.7
I always initiate conversations.	24	18.9
I usually initiate conversations.	47	37
My child and I initiate conversations with equal frequency.	41	32.3
My child usually initiates conversations.	8	6.3
My child always initiates conversations.	1	0.8
Total	127	100.0
Missing	6	
Total	133	
Categories created		
Not mother initiated (Child initiated, or never had)	15	11.8
Equally initiate conversations	41	32.3
Mother initiates conversations	71	55.9
Total	127	100.0

Note: N = 133. Table 17 shows descriptive statistics and frequency of responses for the item used to measure who, mother or child, initiated communication about puberty. Response choices are displayed without abbreviations. Abbreviations include: SD = Standard deviation, Std.E = standard error.

Table 18

Correlations for Predictor, Outcome, and Control Variables

	1	2	3	4	5	6	7	8
1. Mother's Age	1							
2. Marital Status	.002	1						
3. Relative SES	-.104	-.054	1					
4. Language Preference	.090	-.114	-.242**	1				
5. Pubertal Development Score, All	-.072	-.224*	.075	.005	1			
6. Child Knowledge of Puberty	-.003	.063	-.173*	-.097	.225*	1		
7. Mother Inclination Toward Puberty Communication	.075	.086	.034	-.105	.214*	.378**	1	
8. Initiation of Puberty Communication	-.060	.170	-.049	.006	.165	.065	.160	1

Note: N = 133 (total). Table 18 shows correlation statistics for constructs used in analyses. Significance 2-tailed. *$p < .05$, ** $p < .01$.

Table 19
Regression Results Of Pubertal Development Scores Predicting Mothers' Inclination Toward Communication (Path A)

		Model 2	
Variable	Model 1 *B*	*B*	95% CI
Constant	3.176**	2.487*	[1.097, 3.879]
Pubertal Development	.214*	.251**	[.078, .548]
Mother's Age		.102	[-.011, .038]
Intact Marital Status		.131	[-.100, .549]
Language Preference		-.098	[-.262, .083]
Relative Socioeconomic ranking		.009	[-.068, .075]
R^2	0.046	0.083	
F	6.26*	1.961	
df, n	1, 131	5, 113	

Note: N =133. CI = confidence interval. Table 19 shows linear regression results, where the predictor was pubertal development score, outcome was mothers' inclination toward puberty communication, and covariates included, mothers' age, marital status, language preference (Spanish, English, or Both equally) and relative socioeconomic ranking. Intact marital status was measured as married or partnered, compared to single. The MacArthur Subjective Relative Socioeconomic ranking was used; a value of 1 indicated that respondent felt "better off" than most around her, and a value of 10 indicated that respondent felt "worst off." Model 1 included only the predictor and outcome variables; pairwise exclusion. Model 2 included predictor, outcome, and covariate variables; pairwise exclusion. Model 2 had a non-significant F value, p = .090. Beta values presented for the constant are unstandardized coefficients; all other betas are standardized coefficients. *p <.05. **p < .01.

Table 20

Pubertal Development Scores Predicting Mother-Initiation of Puberty Communication (Path B*)*

Category	Variable	B	Std. Error	Wald	Sig.	Exp(*B*)	95% Confidence Interval for Exp(*B*)
Model 1	X^2 = 6.715, *df* = 2, *p* = .035						
Equally Initiate	Intercept	-0.77	0.954	0.65	0.420		
	Pubertal Development	0.08	0.33	0.06	0.813	1.08	[.567, 2.063]
Not Mother Initiated	Intercept	1.26	1.16	1.18	0.278		
	Pubertal Development	-1.08	0.45	5.69	0.017	.34*	[.140, .825]
Model 2	X^2 = 20.470, *df* = 12, *p* = .059						
Equally Initiate	Intercept	-2.893	2.05	1.98	.159		
	Mother's Age	.05	.04	1.79	.181	1.051	[.977, 1.131]
	Marital Status, single (ref = intact)	-.606	.587	1.066	.302	.545	[.173, 1.724]
	Language preferred Spanish (ref = Eng.)	.047	.544	.008	.931	1.048	[.361, 3.046]
	Language preferred Equally (ref = Eng.)	.531	.574	.855	.355	1.700	[.552, 5.235]
	Relative socioeconomic ranking	-.034	.117	.084	.772	.967	[.769, 1.215]
	Pubertal Development	.162	.385	.178	.673	1.176	[.553, 2.503]
Not mother initiated	Intercept	-.236	2.871	.007	.935		
	Mother's Age	.023	.058	.150	.699	1.023	[.912, 1.147]
	Marital Status, single (ref = intact)	2.258	.822	7.544	.006	9.563**	[1.909, 47.896]
	Language preferred Spanish (ref = Eng.)	.982	.921	1.138	.286	2.670	[.439, 16.222]
	Language preferred Equally (ref = Eng.)	.379	1.026	.137	.712	1.461	[.195, 10.919]
	Relative socioeconomic ranking	.061	.168	.133	.715	1.063	[.765, 1.476]
	Pubertal Development	-1.52	.569	7.199	.007	.217**	[.071, .663]

Note: N =133. CI = confidence interval. Table 20 shows multinomial logistic regression results, where the predictor was pubertal development score, outcome was initiation of puberty conversations, and covariates included, mothers' age, marital status, preference for English language (reference, against Spanish and Both equally), and relative socioeconomic ranking. The reference group for the outcome was mother-initiated conversations about puberty. Intact marital status was measured as married/partnered or single; the reference group was married/partnered. The MacArthur Subjective Relative Socioeconomic ranking was used; a value of 1 indicated that respondent felt "better off" than most around her, and a value of 10 indicated that respondent felt "worst off." Model 1 included only the predictor and outcome variables; pairwise exclusion. Model 2 included predictor, outcome, and covariate variables; pairwise exclusion. Both model 1 and 2 showed significant chi-square values.
*p <.05. **p < .01.

Table 21
Regression results of Child's Knowledge About Puberty predicting mothers' inclination toward communication (Path C)

		Model 2	
Variable	Model 1 *B*	*B*	95% CI
Constant	3.134***	2.568***	[1.340, 3.796]
Child's Knowledge about puberty	.378***	.385***	[.162, .447]
Mother's Age		.098	[-.010, .036]
Intact Marital Status		.045	[-.228, .381]
Language preference		-.134	[-.329, .047]
Relative Socioeconomic ranking		.134	[-.018, .119]
R^2	0.143		0.187
F	20.476***		4.729**
df, n	1, 124		5, 108

Note: N =125. CI = confidence interval. Table 21 shows linear regression results, where the predictor was child's knowledge about puberty, outcome was mothers' inclination toward puberty communication, and covariates included, mothers' age, intact marital status, language preference (ordinal: Spanish, English, Both), and relative socioeconomic ranking. The MacArthur Subjective Relative Socioeconomic ranking was used; a value of 1 indicated that respondent felt "better off" than most around her, and a value of 10 indicated that respondent felt "worst off." Model 1 included only the predictor and outcome variables; pairwise exclusion. Model 2 included predictor, outcome, and covariate variables; pairwise exclusion. Beta values presented for the constant are unstandardized coefficients; all other betas are standardized coefficients.
*p <.05. **p < .01. ***p < .001.

Table 22
Regression results of Mothers' Inclination Toward Communication Predicting Child's Knowledge About Puberty (Path C Reversed)

		Model 2	
Variable	Model 1 *B*	*B*	95% CI
Constant	.745	1.584	[-.070, 3.237]
Mother's Inclination toward puberty communication	.378***	.387***	[.261, .718]
Mother's Age		-.053	[-.039, .021]
Intact Marital Status		.020	[-.344, .428]
Language preference		-.023	[-.272, .210]
Relative Socioeconomic ranking		-.197*	[-.181, -.009]
R^2	.143		.184
F	20.476***		4.637**
df, n	1, 124		5, 108

Note: N =125. CI = confidence interval. Table 22 shows linear regression results, where the predictor was mothers' inclination toward puberty communication, the outcome was child's knowledge about puberty, and covariates included, mothers' age, intact marital status, language preference (ordinal: Spanish, English, Both), and relative socioeconomic ranking. The MacArthur Subjective Relative Socioeconomic ranking was used; a value of 1 indicated that respondent felt "better off" than most around her, and a value of 10 indicated that respondent felt "worst off." Model 1 included only the predictor and outcome variables; pairwise exclusion. The constant value in model 1 was not significant, $p = .080$. Model 2 included predictor, outcome, and covariate variables; pairwise exclusion. The constant value in model 1 was non-significant, $p = .060$. Beta values presented for the constant are unstandardized coefficients; all other betas are standardized coefficients.
*p <.05. **p < .01. ***p < .001.

Table 23

Child's Knowledge of Puberty Predicting Mother-Initiation of Puberty Communication (Path D)

Category	Variable	B	Std. Error	Wald	Sig.	Exp(*B*)	95% Confidence Interval for Exp(*B*)
Model 1	$X^2 = 3.816$, $df = 2$, $p = .148$						
Equally Initiated	Intercept	-1.028	.60	2.95	.09		
	Child's Pubertal Knowledge	.191	.21	.84	.36	1.21	[.805, 1.820]
Not Mother Initiated	Intercept	-.478	.75	.41	.52		
	Child's Pubertal Knowledge	-.425	.30	1.97	.16	.65	[.361, 1.183]
Model 2	$X^2 = 15.470$, $df = 12$, $p = .217$						
Equally Initiated	Intercept	-3.522	1.92	3.38	.066		
	Mother's Age	.047	.04	1.51	.22	1.05	[.973, 1.129]
	Marital Status, single (ref = intact)	-.614	.57	1.16	.28	.54	[.177, 1.657]
	Language preference, Spanish (ref = English)	.004	.56	.000	.99	1.004	[.335, 3.011]
	Language preference, Both equally (ref = English)	.588	.58	1.03	.31	1.80	[.579, 5.597]
	Relative socioeconomic ranking	.041	.12	.11	.74	1.04	[.817, 1.329]
	Child's Pubertal Knowledge	.327	.24	1.83	.18	1.39	[.863, 2.227]
Not mother initiated	Intercept	-1.298	2.99	.19	.66		
	Mother's Age	.006	.06	.01	.92	1.006	[.896, 1.129]
	Marital Status, single (ref = intact)	1.341	.66	4.09	.04	3.82*	[1.042, 14.031]
	Language preference, Spanish (ref = English)	.279	.80	.12	.73	1.32	[.276, 6.333]
	Language preference, Both equally (ref = English)	-.272	.94	.08	.77	.76	[.121, 4.082]
	Relative socioeconomic ranking	.014	.17	.006	.94	1.01	[.728, 1.411]
	Child's Pubertal Knowledge	-.460	.34	1.84	.18	.63	[.324, 1.228]

Note: N =124. CI = confidence interval. Table 23 shows multinomial logistic regression results, where the predictor was child's knowledge about puberty, outcome was initiation of puberty conversations, and covariates included, mothers' age, marital status, relative socioeconomic ranking, and preference for English language (reference group, against Spanish and Both equally). The reference group for the outcome was mother-initiated conversations about puberty. Intact marital status was measured as married/partnered or single; the reference group was married/partnered. The MacArthur Subjective Relative Socioeconomic ranking was used; a value of 1 indicated that respondent felt "better off" than most around her, and a value of 10 indicated that respondent felt "worst off." Model 1 included only the predictor and outcome variables; pairwise exclusion. Model 2 included predictor, outcome, and covariate variables; pairwise exclusion. *p <.05. **p < .01.

Chapter 5: Conclusion

As a whole, the current work explored parents' observations and responses to physical milestones related to sexuality development during early childhood. In closing this dissertation, this chapter will present future research directions gleaned from presented findings.

Findings from the study, Parenting and Children's Sexuality Development, suggest today's parents may be willing to acknowledge sexuality development during early childhood. In reviewing existing literature, I noticed a pattern: research on sexuality development comes to fashion every 15-20 years but does not stay in fashion. *Children's Healthy Sexuality* by Chrisman & Couchenour was published in 2002, and as of April 2017, is no longer in publication. The American Academy of Pediatrics guidelines for sexuality education for children and adolescents published in 2016, begins, "The purpose of this clinical report is to provide pediatricians… updated research on evidence based sexual and reproductive health education conducted since the original report on the subject was published by the American Academy of Pediatrics in 2011." At face, this is a factual statement of purpose appropriate for the report and the information provided. Read again, the statement gives only two areas of focus, sexual and reproductive health, and specifies fifteen years of updated literature.

The speed of research and good science is inherently slower than the rate of change in today's society; so it is understandable and expected that, "pediatricians are finding themselves in the unanticipated and unprepared-for role of human sexuality educator and counselor," (p. 1) – that, however, is taken from a Sexuality Information Education Council of the U.S. (SIECUS) report published in 1989 (Kappelman, 1989, p.

1). All the while, the federal government spends $0 to comprehensive sexuality education, funds 33 abstinence-only programs, and since 1982, has funded abstinence-only programs with $1.87 billion federal funds (*State Profiles Fiscal Year 2015*, 2015). When a parent approaches a pediatrician for help, and the pediatrician goes to clinical reports for answers, and clinical reports continue to emphasize need but few specific solutions, and institutions see to higher institutions, and this cycle continues without answers and without funding, where is the tipping point for change?

I do not have an answer yet, and before completing study 1, feared the pattern in research dates reflected an inability to find participants. Of the 20 parents, only 2 (a couple) described themselves as "liberal" during the interview. Other parents described themselves as open, willing, or trying. The majority of parents conveyed some unease, nervousness during the initial, unrecorded greetings, but one father's remarks mid-consent form, conveyed what many in the sample may have thought: as the facilitator explained the risks of participants were not greater than everyday life and it was "possible you or your partner may become newly aware of each other's beliefs or opinions regarding the study topics," Nelson quipped, "That sounds like *more than minimal risk* (laughter)."

In continuing to look for answers, future work should approach three populations: 1) Parents and children, 2) Pediatricians, 3) Elected officials at different levels of government and institutions.

Future work should also consider study designs that give participants feelings such as familiarity, comfort and enjoyment. New technology and devices may be leveraged to obtain new forms of data and make parents feel comfortable with children's

participation in research about sexuality development. The observations parents shared in study 1 were their most memorable stories, often because parents felt unsure why the child asked or behaved as he or she did, or unsure how to respond. It is, though, possible that participants overlooked smaller examples of sexuality milestones. Cellphones and applications may be leveraged to collect daily data of parents' observations in a way that is less disruptive than participation visits. It is possible that priming parents about sexuality development and milestones raises their awareness and curiosity, such that parents prepare earlier for the more expected, physical changes during puberty.

Laboratory methodologies should also look for ways to capture the parent-parent-child triad. Qualitative or observational work with parents and children, as parent-child dyads or triads, could investigate the classic tents of family science, such as parenting profiles or attachment, within the context of sexuality development.

Where previous research drew conclusions that children would feel uncomfortable, and the present research found parents actually felt uncomfortable, future research could capture children's reactions to hearing or saying penis or vulva. For example, a research question might be, do children show physiological signs of stress, discomfort, or unease while listening to their parents read about boy's and girl's body parts? Or do children only show stress, discomfort, and unease when cued by parents' facial expressions, verbal hesitations, or other body language?

Findings from study 2 most emphasize the need to consider how culture and demographic factors influence sexuality development and family socialization. Future work could collapse the broad goal of study 2, which was to capture how mothers experience their child's pubertal development, with the developmental period of study 1,

to examine how Mexican American parents experience their child's sexuality development during early childhood. Study 2 supported the importance of menarche among Mexican American families, as a milestone for girls and an indicator of maturity for parents, but it is unlikely that any additional qualitative work with Mexican American parents of adolescents will gain new clarity for why menarche's importance surpasses breast development and other physical milestones. Instead, future work should consider what parents reported learning in study 1, and use a similar approach to glean parents' views of sexuality development, while offering a potentially different perspective.

More broadly, this dissertation began by constructing the conceptual framework for sexuality development presented in chapter 2 (see Figure 2). Though the framework originally drew upon theoretical knowledge, both studies provide valuable empirical support for conceptualizing sexuality development and sexuality socialization through this framework. Findings from study 1 support the responsibilities listed for parents in the first stage of sexuality development: during infancy and toddlerhood, parents explore the fundamentals of sexuality and teach children about gender, gender differences, privacy and respect. Parents' interviews demonstrate they teach children about gender, even though they did not explicitly consider gender part of sexuality development. In turn, through storytelling, parents illustrate numerous examples of children learning, internalizing, and applying their knowledge of gender and body differences. Future analyses of study 1 data may elucidate other parent responsibilities, and other hallmarks of children's sexuality development at this first stage of sexuality development.

Study 2 first, and foremost, calls into question the prescribed ages listed within the conceptual framework as specific to pre-puberty, 8 – 12, and adolescence, 12 – 18.

More evidence, particularly contemporary evidence, is necessary to assign more accurate ages to each developmental period. It may not be sufficiently accurate to assign puberty as ages of 12 – 15, when focusing on sexuality development as a continuum starting at birth. It may instead, be more useful to determine when parents notice a child's growth spurts, the first sign overt sign of puberty, and track parents' observations of each pubertal milestone. Giving each milestone more attention within the framework may help emphasize that pubertal development is embedded within sexuality development, and sexuality development occurs in a continuous, sequential manner building to adulthood sexuality.

Study 2 also supports that parents provide, and recognize, that children learn about puberty during stage 3 of sexuality development. Mother's reports of pubertal development, knowledge of puberty, and communication efforts provide substantial support that mothers, even in a culturally specific group, recognize some degree of responsibility and make an effort to provide adolescents knowledge about puberty (the parent responsibilities listed during stage 3 of sexuality development). Likewise, mothers' reports support the hallmarks of sexuality development also listed for stage 3 (see figure 2). Future analyses of study 2 data, and data collected in the broader study, may also elucidate other responsibilities, observations and experiences that expand what is theoretically listed during sexuality development stages 2 and 3.

In the future, I expect to design studies that may contribute empirical, qualitative and quantitative evidence to the theoretical framework first designed here. Such evidence may be the key to changing research and societal views of sexuality, and sexuality development as beginning at birth and continuing throughout the lifespan.

Appendices

APPENDIX A: ASSUMPTIONS

Researcher Assumptions

The current work is inspired and guided by previous research experience, as well as, personal experience. It is important to acknowledge how one's previous research experience and personal experience may influence data collection and analyses (interpretation), particularly for qualitative work (Parenting and Children's Sexuality Development). Several assumptions are discussed here.

The first assumption underlying the proposed work can be most clearly seen within the conceptual framework (developed by the researcher): sexuality is developmental in nature and relevant to every stage of growth and development. That is, sexuality emerges throughout the lifespan and can be influenced by a myriad of intrapersonal and interpersonal factors. "Sexuality" bridges several developmental domains as the concept and subsequent understanding of one's own sexuality require competent development physically, cognitively, and socioemotionally.

The second assumption underlying the proposed work and its design, is the researcher's academic degree; the principal researcher has received a master's degree (and bachelor of science degree) in the field of Human Development and Family Sciences. Undergraduate training focused on child development and general family development. This academic background continues to guide the present work and can be seen in the consideration given to children's development, parenting practices, dyadic relationships, and selected theories. At a graduate level, the researcher completed a master's thesis examining the ability of attitudes, beliefs, and self-efficacy regarding

sexual intercourse and condom use to identify specific profiles of adolescents. The study design was driven by recollection of the cliques seen in high school, and its applicability to sexual behaviors. The study designed tested the broad idea that students could be distinguished by their characteristics (in this case attitudes and beliefs about sexual intercourse and condom use, and self-efficacy for condom use). That work continues to guide the proposed work as can be seen in the search of patterns among parenting couples of young children (i.e. could data from the Parenting and Children's Sexuality Development study guide future work to explore how education programs can be matched to parents/families to promote a good fit between curriculum and family values as well as continued use of evidence-based practices).

The third assumption underlying the current work is the need for sexuality education. The myths and rumors circulated by students regarding sex were abundant, even though sex education was provided at school. The researcher's personal preference for information over rumors encouraged open communication with pediatricians, teachers, and parents, in search of accurate information. The need for sexuality education, particularly within the state of Texas, was made irrefutably clear during a lecture on pregnancy and fetal development given by Dr. Halley Esperanza at The University of Texas at Austin (researcher served as the teaching assistant). An undergraduate student asked aloud and with sincerity, "how the baby moved from the stomach, mom's tummy, to the uterus to be born?" Dr. Esperanza handled the question professionally and impressively; she was not surprised by the misinformation within the student's question and instead discussed the colloquial, but inaccurate, language used to describe a baby as being inside "mom's tummy." Later, Dr. Esperanza talked with the researcher at length

about the variability she had noticed in the (adult) undergraduate students' knowledge regarding sex and their bodies.

The last assumption guiding the present research is this: sex education within the U.S. is often presented as grounded in either abstinence oriented or biology (comprehensive). Yet, communicating about sex, sexuality, and even one's own body, can be difficult enough. Simply speaking, a person must learn to communicate their preference before acting upon it, and communication starts at home with parents and family.

Research Team

The research team that assisted with data collection and analyses for study 1, Parenting and Children's Sexuality Development During Early Childhood included (First name only): Senior members, Fariya, Fatima, Luiz, Lucia; and Junior members, Cooper, Nikita, Andy, Abraham, Bada, and Cameron. All research assistants except for Cameron were students at the University of Texas at Austin. The senior researchers worked with me for 1 – 3 years, and the junior members joined the team between Fall 2016 and early Spring 2017. All students conveyed interest in the lab due to their own sexuality experiences. All except Cooper, Abraham, and Cameron received minimal sex-education at school or at home. Most learned the word penis between late elementary school and middle school, but did not learn vulva/vagina until high school. All but Cameron attended the sex-education orientation at UT Austin.

Without names to protect their privacy, five of the students shared that one reason they joined my research team was that they had not yet engaged in sexual intercourse and wanted to learn more about sex and sexuality. This was something that through the work, students became more comfortable knowing about each other – and disclosed during team meetings as we discussed data and possible sources of bias.

Each student had a position in the lab. Fariya and Fatima both supervised administrative tasks and assisted with study 2 data collection and entry. Luiz headed data collection for study 2 and lead transcript verification step 2. Lucia supported Luiz as necessary. Fariya, Fatima and Luiz were the 3rd coder during transcript reliability calculations.

Nikita and Cameron facilitated most mother interviews, while Cooper and Abraham facilitated most dad interviews. Nikita was also head of recruitment and assisted me with contacting participants, preparing materials, scheduling research assistants, and sending reminders. Cooper was also tasked with returned materials and scanned all hard copy documents; he also co-lead transcription procedures with Abraham. Cameron, Bada, Andy, Abraham and Cooper transcribed audio-recordings. Abraham also helped me create a detailed transcript protocol that took into consideration two-participants and little turn-taking, as participants often spoke over each other. Nikita, Bada, Abraham, Andy, Cooper, and Cameron coded all transcripts. Fatima and Luiz helped me train and supervise students, since both had extensive coding experience on a prior study, where I was Co-PI. Nikita helped me maintain an accurate and complete audit trail, and Cooper helped maintain an accurate and updated file index for all project materials kept electronically in UT Box.

A special note on Cameron: she came to my lab after sending an email expressing her interest in participating in research. Her father is a professor at the university (position not disclosed for anonymity) and her mother also works in higher education. Cameron was 16-years old when she started, and turned 17 during the time we worked together. I met both her parents to ensure they felt comfortable with the study topic and what she could be asked to do as a research assistant. Cameron did not differ from the rest of the team in any way; moreover, her work was as detailed and professional as her peers.

Without names, the team was also diverse in majors: two students were Human Development and Family Science majors (or minors), three students were psychology majors, two students were also neuroscience majors, one student was a biology major, one student was a public health major, one student was a sociology major, one student was an English, creative writing major, and one student was an Economic major. Three students were dual-major students. In exchange for their efforts, I provided professional development training and did my best to give them a positive and honest idea of what research takes; in this case, a team of 10. Since over half the team members were already 'my' research assistants when study 1 data collection began, all (except Lucia who left for medical school) continued to work through the summer.

APPENDIX B: SEXUALITY DEVELOPMENT MILESTONES BY AGE

Developmental Expectations of Children's Sexuality Development

Category of Developmental milestone	Age Stage: Infants and Toddlers	Age Stage: Preschoolers	Age Stage: Elementary School Age
Body-related /genitalia-related development	Explore body parts and genitals Develop positive or negative attitudes about own body Experience genital pleasure	Become aware of gender and body differences Masturbate unless taught not to Engage in sex play	Continue sex play and masturbation unless taught not to
"Gender-related" development	Develop male or female identity (begin to) Learn expected behaviors by gender	Formalize belief that they are male or female	Form strong same-sex friendships Have strong interest in stereotyped gender roles Choose gender-stereotypical activities
Language/Lexicon related development	Early recognition of language specific to each gender	Enjoy bathroom humor (i.e. fart-noises) Repeat curse words (observed language)	Tease and call names
Reproduction related development		Become curious about where they [babies] come from	Increase curiosity towards pregnancy and childbirth

Note: Appendix B shows various sexual behaviors and the age at which each can be expected during typical development. Milestones specified in each of the age stage columns are taken directly from extant empirical work (Chrisman & Couchenour, 2002). Categories of developmental milestones are identified in conjunction with hallmarks included within the contextual framework. The categories are not specific to developmental domains (i.e. physical, cognitive, social or emotional domains) as many expectations involve multiple domains. This study examines only expecting parents and parents of infants and toddlers (Age Stage: Infants and Toddlers; aged 3 or younger). Information for other periods in childhood is presented to support sexuality development as continuous and relevant across childhood.

APPENDIX C: STUDY 1 SCREENING FORM

"Parenting and Children's Physical Sexuality Development"
Participant Screening Form

(Presented via Qualtrics to assess initial eligibility)

Potential participants (interested persons) may complete this form individually. The conclusion of the form obtains partner information. Participating couples will complete this form as necessary; for example, if participant "mother" completed the form originally but participant "father" did not, then "father" participant will complete this form during the participation visit.

1. What is your age (in years)? _____

2. What is your gender? ☐Male ☐Female

3. Are you married? ☐Yes ☐No

4. (If Q3 = YES) Is this your first marriage? ☐Yes ☐No

5. (If Q3 = YES) How long have you been married (in years)? _____

6. Are you and your partner/spouse living together? ☐Yes ☐No

7. (If Q6 = YES) how long have you and your partner been living together (in years)? _____

8. Do you and your partner/spouse co-parent (i.e. make parenting decisions together)?
   ☐Yes ☐No

9. How many children do you currently have? (Please enter a numerical response) _____

10. (IF Q9: >= 1) Who would you consider the primary caregiver for your child/children (does about 75% of care-giving)?
    1 I am the primary caregiver
    2 My partner/spouse
    3 We both contribute equally
    4 Other

11. Does anyone else provide more than 50% of care to your child?
    ☐Yes ☐No

12. (If Q11 = YES) Please describe the role of this person to your child (e.g. grandmother, aunt, etc.)? _____

13. Please complete the following information for each child.

	Age / Birthday	Gender	Was this child biologically conceived from your current marriage?	(If = No) Was this child adopted in your current marriage?	Is this child from a previous marriage/ relationship?
First born child	(Numerical Responses)	(Male or Female)	(Yes or No)	(Yes or No)	(Yes or No)
Second born child					
Third born child					

14. Are you currently pregnant? (If Partner= Female: Is your spouse currently pregnant?)
☐Yes ☐No

15. (If Q14 = Yes) How far along is the current pregnancy (in weeks)? _____

16. Prior to having children, did you and your spouse discuss having children?
1 Not at all 2 Very little 3 Unsure 4 Somewhat 5 Very much

17. Rate your agreement with the statement: "For us, the decision to have children was made after careful consideration of the changes that come with parenthood."
1 Greatly disagree 2 Disagree 3 Unsure 4 Agree 5 Greatly Agree

18. When you found out you were pregnant with your FIRST child, how much did you want to have a baby with your spouse?
1 Not at all 2 Very little 3 Somewhat little
4 Neither little nor much
5 Somewhat much 6 Very much 7 Completely

19. When you learned you were pregnant with your FIRST child, how happy did you feel?
1 Extremely unhappy 2 Moderately unhappy 3 Slightly unhappy
4 Neither unhappy nor happy
5 Slightly happy 6 Moderately happy 7 Extremely happy

20. Select the option that best completes the statement:
When my partner and I became pregnant with our FIRST child, we were…
1 Abstaining to prevent a pregnancy entirely
2 Using birth control to prevent a pregnancy
3 Neither using birth control nor actively pursuing a pregnancy
4 Actively pursuing a pregnancy
5 Pursuing a pregnancy with fertility treatment
6 We first became parents through adoption (i.e. used an adoption agency/service)
7 We first became parents through surrogacy (i.e. used a surrogate)

21. Could you and/or your spouse complete a 45-minute interview together as part of this study (i.e. complete an interview/activity as a couple)?

☐Yes, together ☐Maybe (schedule permitting) ☐Only I could attend ☐ No

[Qualtrics programming instructions: If eligible participants will be asked to provide contact information to receive more information about the study and schedule an interview. If ineligible or unable to complete an interview (as determined in Q16) participants will be directed to the end of the survey.]

22. If Yes, please provide the following contact information:
Your name: _____
Your spouse's name: _____
Primary phone number: _____
Your Email: _____
Your spouse's email: _____
Spouse's phone number: _____

23. Which of the following general times would best work for you and/or your spouse's schedule? (Select all that apply)

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Morning (9am – 12pm)	☐	☐	☐	☐	☐	☐	☐
Afternoon (12pm-5pm)	☐	☐	☐	☐	☐	☐	☐
Evening (5pm – 8pm)	☐	☐	☐	☐	☐	☐	☐

APPENDIX D: STUDY1 INDIVIDUAL INTERVIEW

"Parenting and Children's Physical Sexuality Development"

Stage 1: Individual Interview

Introduction:

Please remember that your participation is entirely voluntary, you may skip any questions you do not wish to answer, and there are no right or wrong answers to any of the questions.

All of your data will be kept confidential and in a secure location. Audio recordings will be stored within encrypted servers as part of The University of Texas at Austin.

Your information will not be shared with anyone.

Interview Guide: Introducing the term 'sexuality'

1. What does "sexuality" means to you?
   a. *Probe:* What about physically?
   b. *Probe:* What about emotionally?

After participant's response: Along with the responses you've shared, sexuality can be defined in a number of ways. I'd like to share with you one definition to help frame our conversation today. Sexuality can be defined as (*do not say quote, citation purposely only, present cardstock copy)*

"a central aspect of being human throughout life encompasses sex, gender identities and roles, sexual orientation, eroticism, pleasure, intimacy and reproduction. Sexuality is experienced and expressed in thoughts, fantasies, desires, beliefs, attitudes, values, behaviors, practices, roles and relationships. While sexuality can include all of these dimensions, not all of them are always experienced or expressed. Sexuality is influenced by the interaction of biological, psychological, social, economic, political, cultural, legal, historical, religious and spiritual factors." (*Source: World Health Organization, do not say unless asked explicitly).*

2. What are your thoughts or reactions to this definition?
   a. *Probe:* Have you heard or read any portion of this definition before? (Where?)
   b. *Probe:* Is any part of this definition surprising to you?
   c. *Probe:* Is any portion of this definition shocking to you?

3. When thinking about this definition, what particular ages or life periods come to mind? For example, adulthood or childhood?
   a. *Probe:* Why do you think that is?
   b. *Probe:* Are any words specifically that draw your attention?

Experience with pediatrician

4. Has your pediatrician mentioned anything about sexuality development in childhood?

If request further clarification/rephrase: The American Academy of Pediatrics encourages pediatricians to talk to parents about sexuality as part of their child's expected growth, particularly physical aspects that pertain to their body in general.

a. *Probe:* Has your pediatrician mentioned sexuality as it relates to childhood?
b. *Probe IF YES:* Do you recall any reactions at the mention of sexuality in childhood? (Were you surprised?)
c. *IF NO begin question 5 including the underlined language.*

5. Even if your pediatrician hasn't mentioned anything specifically, why do you think they might be encouraged to talk to parents of young children about sexuality development?

a. *Probe:* What about physical growth in childhood?

Toilet training

One milestone for children between ages 1-3 can be toilet training.

6. Have you and your partner/spouse begun toilet training?

During toilet training, parents may begin to give names to children's body parts, and euphemisms can be used in lieu of anatomic words for genitals. (*A euphemism is a word or phrase that substitutes a word that might cause unease. If asked for an example give, "potty" for "restroom")*

7. IF YES TOILET TRAINING: What words or names do you or your partner/spouse use for your child's genitals?

7b. IF NO TOILET TRAINING: What words do you think you might use for your child's genitals?

a. *Probe:* What words do you think your partner/spouse might use?

8. WILL / HAVE / DID you and your partner/spouse discuss these words?

a. *Probe:* Was this before you began toilet training?
b. *Probe:* Why would you like to use these words (*try to recall at least one word and give as specific item)*?

Children's Questions

9. Has your child asked you any questions that you thought were related to sex, sexuality, or other sex-related topics? (For example questions such as, "Where do babies come from?")

a. *Probe:* How old was your child?
b. *Probe:* Are there any questions your child may have asked your partner/spouse?

c. *Probe:* Have you and your partner/spouse talked about how to answer these questions? (Who will answer these questions?)

Surprising behavior

10. Has your child done anything that surprised you that you might consider part of his (or her) sexual development?

a. *Probe/example:* For example, sometimes parents are surprised to see boys have erections during diaper changes.

This concludes our stage1 interview so we'll return now to your partner/spouse.

APPENDIX E: PARENTING AND CHILDREN'S SEXUALITY DEVELOPMENT STUDY STAGE 2 ACTIVITY

Stage 2: Partnered Activity & Interview

Participants will complete the activity together via Qualtrics. Interviewer will encourage discussion. This is a mock up of the activity. Items are displayed one at a time, and all four categories are visible at all times.

Match the following list of milestones (items 1-22) into one of four age categories: Infancy/Toddlerhood, Preschool, Elementary School Age, Adolescence. You do not have to rank the order within each age category (group).

1. Explore Body parts and genitals (1) 2. Develop attitudes about own body (2) 3. Experience genital pleasure (3) 4. Become aware of gender and body differences (4) 5. Masturbate (5) 6. Engage in sex play (6)	Infancy & Toddlerhood
7. Form same-sex friendships (7) 8. Formalize self-identity as male or female (8) 9. Learn expected behaviors by gender (9) 10. Recognize language specific to each gender (10) 11. Enjoy bathroom humor (i.e. fart-noises) (11) 12. Repeat curse words (12)	Preschool Age
13. Interested in stereotyped gender roles (13) 14. Tease and call names (14) 15. Choose gender-stereotypical activities (15) 16. Curiosity towards pregnancy/childbirth (16) 17. Curiosity about where babies (i.e.they) come from (17) 18. Begin toilet-training (18)	Elementary School Age
19. Learn about privacy (19) 20. Learn about respect for others' bodies (i.e. "personal space") (20) 21. Have a boyfriend/girlfriend (regardless of actual dates) (21) 22. Have a boyfriend/girlfriend (and go out on dates) (22)	Pre-adolescence Adolescence

APPENDIX F: PARENTING AND CHILDREN'S SEXUALITY DEVELOPMENT STAGE 2 INTERVIEW

"Parenting and Children's Sexuality Development"
Stage 2
Facilitated Activity & Interview Guide

Introduction to participants:
This is now stage 2 of your visit. In this stage, we're going to ask you to complete an activity together, followed by a few questions. I'd like to remind you that your participation is entirely voluntary and each of you has the right to skip any question you do not wish to answer. There are no right or wrong answers to any of the questions. Everything from today's interview will be kept confidential, and I will not share any of your information with anyone. The only time I might have to talk to someone about something you share today is if I am concerned for your safety or others' safety.

Are there any questions?

The activity will be completed on this tablet device. What we have here is a list of milestones or behaviors that your child might reach sometime between infancy and adolescence. We'd like you to work together to pick an age category for each milestone or behavior. The tablet allows you to drag and drop the behavior from the left hand side of the screen to one of the four categories on the right: infancy, preschool age, elementary school age, or adolescence. In this first attempt, we'd like you to communicate with each other. Afterwards, you'll be able to ask me any additional questions and change your choices if you wish.
Are there any questions?

Let's start.

RA INSTRUCTIONS: The tablet should be ready to go – offline Qualtrics – and be placed in front of both partners so it is easily viewable by both.

After the first attempt:

I: Great.

IG 1. What did you each think of that activity?
   a. *Probe:* Did any milestones surprise you?
   b. *Probe:* Were any milestones confusing?

IG 2. Overall, how confident are y'all about your choices?

RA INSTRUCTIONS: Give the paper copy of final responses recorded by the note-taking research assistant.

I: Now you have the opportunity to review your choices, ask questions, and if you'd like change your selections.

<u>RA INSTRUCTIONS:</u> After completion and submission continue onto interview guide.

Interview guide

Thank you for completing the activity. As you've experienced today, we'd like to learn how parents – parenting couples – think about and talk about their child's physical sexuality development, particularly when the child is 1 – 3 years old.

IG 3. As a parenting couple, have you talked about what you will teach your children when it comes to sexuality?

IG 4. Before today's visit, had you considered any of your child's development to be related to "sexuality?"

a. *Probe: For example, did you think or talk about the words used for genitals as being related to sexuality?*

IG 5. Thinking of your children, where do y'all as a couple, expect them to receive information about physical growth, sexuality-related topics?

IG 6. Have both of you talked together about how you'll answer sexuality-related questions?

IG 7. Have both of you talked together about how you will divide answering questions or teaching duties?

a. *Probe*: Do you have "assigned" roles in mind for each parent?

IG 8. Do you think your child's gender has anything to do with which parent will take the lead on certain topics?

IG 9. Would you describe yourselves as being "on the same page" with each other when it comes to topic of sexuality as it relates to your child (or children)?

a. *Probe:* Is this a topic you will negotiate together explicitly, or implicitly?

IG 10. Is there anything else you'd like to add?

a. *Probe*: Anything we did not talk about that you think is missing from our talk?

Conclusion:

Thank you both for participating today. We very much appreciate your time and responses here. I'd like to remind you that your responses today will not be shared with anyone else and your interviews will be kept confidential and secured. Now we'll go on to the last stage of today's visit. **Proceed to Stage 3 survey procedures.**

APPENDIX G: PARENTING AND CHILDREN'S SEXUALITY DEVELOPMENT NOTE-TAKER GUIDE

Stage 2: Partnered Activity & Interview
NOTE-TAKER GUIDE

RA Instructions: Record the choices participants make in matching items on the left with age categories on the right. Make special note if participants negotiate the placement of an item (subscript N), if either "M" or "F" participant is more dominant in the selection process (use tag designation), if any choices as "just put there" (matched with lesser certainty) (0). Make other notes as necessary.

1. Explore Body parts and genitals (1) 2. Develop attitudes about own body (2) 3. Experience genital pleasure (3) 4. Become aware of gender and body differences (4) 5. Masturbate (5) 6. Engage in sex play (6)	Infancy & Toddlerhood
7. Form same-sex friendships (7) 8. Formalize self-identity as male or female (8) 9. Learn expected behaviors by gender (9) 10. Recognize language specific to each gender (10) 11. Enjoy bathroom humor (i.e. fart-noises) (11) 12. Repeat curse words (12)	Preschool Age
13. Interested in stereotyped gender roles (13) 14. Tease and call names (14) 15. Choose gender-stereotypical activities (15) 16. Curiosity towards pregnancy/childbirth (16) 17. Curiosity about where babies (i.e.they) come from (17) 18. Begin toilet-training (18)	Elementary School Age
19. Learn about privacy (19) 20. Learn about respect for others' bodies (i.e. "personal space") (20) 21. Have a boyfriend/girlfriend (regardless of actual dates) (21) 22. Have a boyfriend/girlfriend (and go out on dates) (22)	Pre-adolescence Adolescence

APPENDIX H: PARENTING AND CHILDREN'S SEXUALITY DEVELOPMENT STAGE 3 SURVEY

"Parenting and Children's Sexuality Development"

Stage 3
Survey

Thank you for participating in today's interview visit. This is the final stage of your visit.

During stage 2 you and your partner/spouse participated in an activity and interview.

Please remember that your participation is entirely voluntary, you may skip any questions you do not wish to answer, and there are no right or wrong answers.
All of your data will be kept confidential and in a secure location, and on encrypted servers with The University of Texas at Austin.
Your information will not be shared with anyone.

When you are ready please proceed to the short survey.

After a short time a research assistant will return to conclude your visit.

1. During the interview with my partner/spouse (stage 2), I felt:

   1 Extremely uncomfortable
   2 Moderately uncomfortable
   3 Slightly uncomfortable
   4 Neither uncomfortable nor comfortable
   5 Slightly comfortable
   6 Moderately comfortable
   7 Extremely comfortable

2. During the interview with my partner/spouse (stage 2), I think my partner/spouse felt:

   1 Extremely uncomfortable
   2 Moderately uncomfortable
   3 Slightly uncomfortable
   4 Neither uncomfortable nor comfortable
   5 Slightly comfortable
   6 Moderately comfortable
   7 Extremely comfortable

3. During today's participation visit, did you learn anything <u>new from the research team</u>?

   ☐Yes ☐No ☐Unsure
   If yes or unsure, please elaborate (briefly):
_____
_____
_____

4. During today's participation visit, did you learn anything <u>new about your partner/spouse</u>?

   ☐Yes ☐No ☐Unsure
   If yes or unsure, please elaborate (briefly):
   _____
_____
_____

5. During today's participation visit, did you learn anything <u>new about yourself</u>?

   ☐Yes ☐No ☐Unsure
   If yes or unsure, please elaborate (briefly):
   _____
_____
_____

6. How honest was the discussion between you and your partner/spouse (during stage 2)?

1	2	3	4	5
Not Honest At All	Somewhat Honest	Mostly Honest	Very Honest	Completely Honest

8. After today's visit would you consider "sexuality" (as we defined it) to be part of early childhood growth?

1	2	3	4	5
Not At All	A Small Part	A Moderate Part	A Large Part	A Significant Part

9. How comfortable are you (or would you be) talking to your children about their sexuality (this can include body parts, puberty-topics, etc.)?

1 Extremely uncomfortable
2 Moderately uncomfortable
3 Slightly uncomfortable
4 Neither uncomfortable nor comfortable
5 Slightly comfortable
6 Moderately comfortable
7 Extremely comfortable

10. Where would you **NOT** want your child to learn about his/her sexuality development? (Select all that apply)

☐At home	☐From their mother/ stepmother	☐From TV
☐At church	☐From their father/ stepfather	☐From movies
☐At elementary school (k-5th)	☐From siblings	☐From websites
☐At middle school (6th – 8th)	☐From cousins	☐From social media (e.g. Facebook)
☐At high school (9th – 12th)	☐From an aunt/uncle	☐From books
☐At college	☐From a grandparent	☐From pornography
☐From friends	☐From a doctor/nurse	☐Other (elaborate):

10. How likely do you think it is that you and your partner/spouse will talk about your child's (children's) sexuality development after today's visit?

1 Extremely unlikely
2 Moderately unlikely
3 Slightly unlikely
4 Neither unlikely nor likely
5 Slightly likely
6 Moderately likely
7 Extremely likely

11. May we, the research team, contact you within 1-2 months for a brief survey? (A follow up survey would be completed via phone call or online/mobile device. You may choose to not complete the survey at that time).

1	2
Yes	No

If you have any additional comments/questions or need space to elaborate your responses please use the space below:

End of STAGE 3 Survey

Thank you for your responses, a research assistant will be with you momentarily.

APPENDIX I: MEXICAN AMERICAN MOTHERS' PERSPECTIVES ON PUBERTY ITEMS

Study 2: Mexican American Puberty Study: Mothers' Perspectives on Puberty

Item	Response Scale
Control Variables	
What is your age (in years)?	Numerical/ open-ended
What is your marital status?	Single; live with a partner; married; divorced; separated; widow; other
How many people currently live in your home?	Numerical/ open-ended
Which language do you prefer?	1 = Spanish 2 = Both Spanish and English 3 = English
Where would you place your family on this ladder where at the top are those who have the most money, education, and respected jobs and at the bottom are those who are worst off?	1 = Best off 10 = Worst off (Uses an image of a ladder)
Is [Target child] a boy or a girl?	1 = Boy 2 = Girl
Target child's age.	Numerical/open-ended
Characteristics of the sample	
What does "puberty" mean to you? Select any options you would include in a definition of puberty.	Periods; body changes; body hair growth; body smells; increased responsibility; extra laundry; bullying; peer pressure; shaving; irritability and mood changes; longer time in the bathroom/shower; entering into adulthood
Is puberty associated with any of the following? Select as many items as applicable.	Adolescence; pregnancy; health; friends; self-esteem; sex; academic performance; peer relationships

Compared to most males/females your child's age, most of the time you feel your child is:	1 = A lot younger; 2 = A little younger; 3 = About the same; 4 = A little older; 5 = A lot older.
Compared to most other children your child's age and sex, do you think your child's physical development is:	1 = Much earlier; 2 = Somewhat earlier; 3 = About the same; 4 = Somewhat later; 5 = Much later.
When I talk to my child about puberty, I share stories about my pubertal development.	1 = Strongly disagree; 2 = Disagree; 3 = Neutral/depends; 4 = Agree; 5 = Strongly agree.
My beliefs and values guide my discussions of puberty with my child.	1 = Strongly disagree; 2 = Disagree; 3 = Neutral/depends; 4 = Agree; 5 = Strongly agree.
Which of the following items have you used to help you talk to your child about puberty, and pubertal development?	Books; Videos/movies; Internet websites; Brochures or handouts from a physician's office; I have not used any resource material to talk to my child (none). I have never talked to my child about puberty. Other (describe).
I would like to talk to my child about puberty more than I currently do.	1 = Strongly disagree; 2 = Disagree; 3 = Neutral/depends; 4 = Agree; 5 = Strongly agree.
I would like for my child to come to me with questions about his/her development.	1 = Strongly disagree; 2 = Disagree; 3 = Neutral/depends; 4 = Agree; 5 = Strongly agree.

What do you think is the "right age" for talking to your child about puberty?	Numerical/ open-ended
Where do conversations with your child about puberty occur?	1 = in his/her room; 2 = In the living/dining room; 3 = In the car; 4 = Other (describe).
Predictor Variables	
Construct: Child's pubertal development stage	
Which of the following best describes your child's body hair growth? (Body hair means hair any place other than his/ her head).	1 = Not yet started; 2 = Barely started; 3 = Definitely started; 4 = Seems complete.
Which best describes the changes in your child's skin such as pimples?	1 = Not yet started; 2 = Barely started; 3 = Definitely started; 4 = Seems complete.
Which of the following best describes your child's growth in height (growth spurt)?	1 = Not yet started; 2 = Barely started; 3 = Definitely started; 4 = Seems complete.
For males: Which best describes the changes (deepening) in your son's voice?	1 = His voice has not yet started changing; 2 = His voice has barely started changing; 3 = His voice change is definitely underway; 4 = His voice change has been completed.
For males: Which best describes the hair growth on your son's face?	1 = Not yet started growing facial hair; 2 = Have barely started growing facial hair; 3 = Facial hair growth is definitely underway; 4 = Facial hair growth seems completed.
For females: Which best describes the growth of your daughter's breasts?	1 = Not yet started growing; 2 = Have barely started growing; 3 = Breast growth is definitely underway; 4 = Breast growth seems completed.

For females: Has she ever had a menstrual period?	1 = Yes; 2 = No.
For females: If yes, how old was she when she had her very first menstrual period?	Ages given as response choices. 8 = Younger than 9 years old 9 – 15 (individually) 16 = Older than 15
Construct: Child's knowledge of puberty	
Do you think your child has enough information (knows enough) about puberty for his/ her age?	1 = Not enough; 2 = Close to enough; 3 = Exactly enough; 4 = More than enough; 5 = Too much.
Outcome Variables	
Construct: Mother inclination towards puberty-communication	
I feel comfortable talking to my child about puberty, and his/her pubertal development.	1 = Strongly disagree; 2 = Disagree; 3 = Neutral/depends; 4 = Agree; 5 = Strongly agree.
I know enough about what happens during puberty to talk to my child about his/her development.	1 = Strongly disagree; 2 = Disagree; 3 = Neutral/depends; 4 = Agree; 5 = Strongly agree.
I feel my child is comfortable talking to me about his/ her pubertal development.	1 = Strongly disagree; 2 = Disagree; 3 = Neutral/depends; 4 = Agree; 5 = Strongly agree.
When talking to [target child's first name] about puberty in general, I feel…	1 = Very uncomfortable; 2 = Somewhat uncomfortable; 3 = Neutral/ depends; 4 = Somewhat comfortable; 5 = Very comfortable.

Do you think anybody besides you has talked to your child about puberty?	1 = No, I do not think anybody else talks to my child about puberty. 2 = His/ her brothers or sisters. 3 = Other relatives 4 = His/ her friends 5 = His/her school teachers; 6 = Other parents.
Construct: Initiation of puberty communication	
Which of the following statements best describes how conversations with your child about puberty begin?	1 = We have never had a conversation about puberty. 2 = I always initiate conversations about puberty. 3 = I usually initiate conversations about puberty. 4 = My child and I initiate conversations about puberty with equal frequency. 5 = My child usually initiates conversations about puberty. 6 = My child always initiates conversations about puberty.

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